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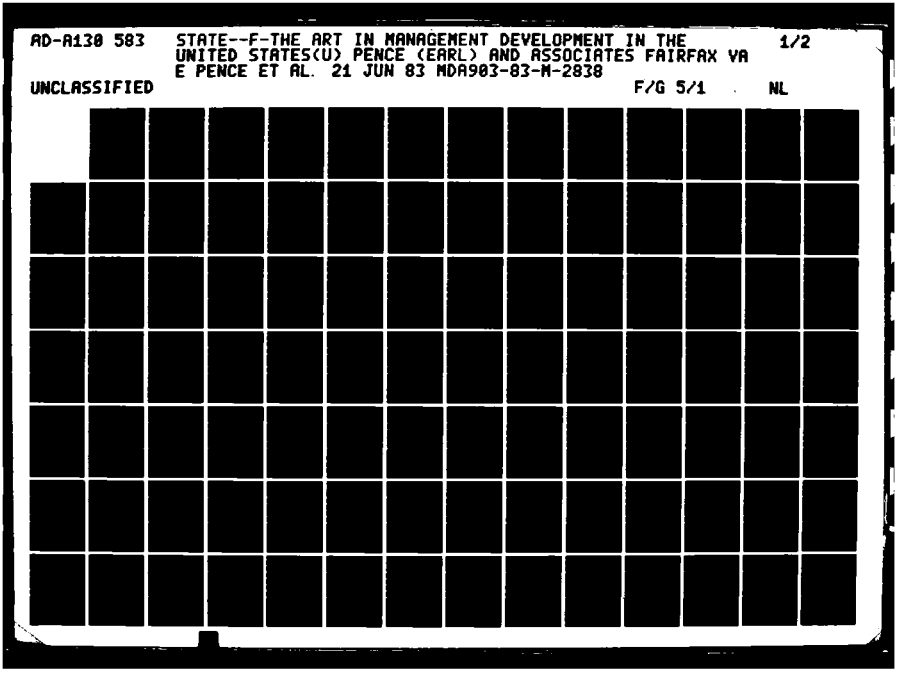

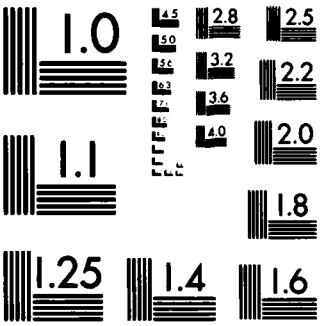

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The purpose of this report is to assess the state-of-the-art in contemporary American Executive Development and Training and to highlight areas for application in the Department of Defense.

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The State-Of-The-Art

in

Management Development

in the

United States

FINAL REPORT

Contract Number MDA903-83-M-2838

Earl C. Pence

Principal Investigator

Nancy Small Reed and Gerard Fahy

Research Associates

June 21, 1983

The State-Of-The-Art of Management Development in the United States

EXECUTIVE SUMMARY

The current report represents one aspect of the continuing effort by the Defense Systems Management College to improve its management development programs. This research project included an examination of the current state-of-the-art of management development in organizations in the United States, identification of organizational factors important for implementation of effective management development programs, development of guidelines for use in planning and implementing a state-of-the-art program, and an examination of the implications of these findings for program development at DSMC.

The research suggests that two basic approaches to management development could be identified, a management education approach and a management development systems approach. Programs representative of the management education approach are characterized by:

The use of fairly generalized developmental objectives

A focus on improving knowledge without skill development

The use of traditional instructional methods such as lecture

A lack of assessment of participants' individual management development needs

Limited integration of the educational experience with on-the-job experience

In contrast to the characteristics outlined above, programs which are representative of the management development systems approach usually display the following characteristics:

A needs analysis which identifies behavioral competencies related to achievement of organizational objectives

A bottom line "results" orientation

The use of individual development plans tailored to the needs of individual managers

An integration of classroom experiences with

on-the-job developmental activities

The use of performance-based instructional methods which facilitate skill development

Integration of management development and career planning systems

Research indicates that the management development programs existing in academic settings and interagency training organizations typically follow the management education model. On the other hand, a number of organizations have developed internal programs which more closely resemble a management development systems approach. These organizations have programs which represent the state-of-the-art in management development. There is a general consensus among management development professionals that an integrated systems model of management development is the direction in which more progressive organizations are moving. Preliminary data indicate that these management development systems are more likely to produce changes in actual managerial performance than are management education programs.

The research effort also identified several organizational factors that are important in the successful implementation of these programs. These factors include:

A strong commitment to management development by upper management

The view that management development is the responsibility of line management

The availability of needs analysis data
Developmental programs clearly linked to achievement of organizational goals

The existence of a career planning system and commitment to employee development

Availability of resources needed to tailor development to individual managers

Examination of the current management development programs at DSMC indicates that they represent a management education approach to managment development. The effectiveness of these programs could be enhanced by the following actions:

Identification of management development needs of individual students using a competency based needs assessment instrument

Development of an individual development plan (IDP) for each student

Allow students to select elective courses beyond an established core curriculum based on this IDP

The use of more highly interactive simulations and other performance-based instructional methods which facilitate skill development and integration of knowledge gained in class lectures

Providing students with more feedback concerning their level of skill development

Aiding students in setting goals for continued developmental activities after they leave DSMC

Modify the student selection process and course structure such that material is presented at a relevent point in the students' career, i.e. usually when they change positions which represent a change in function or role

The changes noted above could be instituted while retaining basically the same academic nature of the programs at DSMC. If the college wishes to move toward development of a state-of-the-art management development system, it must first address a number of issues. Many of these issues are related to the fact that DSMC would be functioning as an external training organization developing the program for a number of different clients. The issues which must be dealt with include:

Is it possible to conduct the necessary organizational needs analysis?

Is there a strong commitment to such a management development program in all of the client organizations?

What will be the role of DSMC faculty in a program in which primary responsibility for management development should reside with line management?

Is the structure of DSMC as an academic institution consistent with the training environment needed for developing multi-functional managers who need an integrated perspective of their role?

Do adequate career development systems exist within the client organizations to make this management development systems approach feasible?

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CHAPTER 1

Introduction

> It is now increasingly apparent that the United States is truly engaged in a global, competitive economic struggle. It is also clear that this challenge is providing a rapidly growing awareness and a commitment on the part of American managers to make critical changes in their corporate policies and organizations that involve the continuing development of their managers and employees.
>
> Robert R. Rehder (1982)

The above quote is taken from an article appearing in the Winter 1982 issue of SLOAN MANAGEMENT REVIEW. It is representative of the opinions expressed by many authors writing on the issue of management development in recent issues of popular and professional journals in the areas of business, personnel, management, and training (Rehder, 1982; Livingston, 1983; Daly, 1980). While there has been an increased interest in the area of management development since the early 1970s, a number of factors have resulted in what many researchers view as a crisis in the management of U.S. organizations.

The Defense Systems Management College, which has a long tradition of providing high quality management development programs for members of the acquisition management community, must ensure that its programs remain abreast of the state-of-the-art in

management development in order to prepare individuals in the field of acquisition management to meet this challenge. Information on the state-of-the-art in management development programs existing in organizations throughout the United States could be very useful in guiding the revision and/or refinement of the management development programs at DSMC. It was to this end that the present research project was undertaken.

The objectives of the research effort were three-fold. First, the authors made an assessment of the current state-of-the-art management development programs and techniques currently in use or being developed by a wide variety of organizations. The primary concern was to survey programs which appeared to provide managers with skills required to cope with the challenges faced by organizations today and in the future. Thus, programs were examined in organizations ranging from government agencies to manufacturing industries, banks, and consulting firms.

The second objective of the current effort was to develop a generic model of the management development process which could be used as an aid in constructing or revising management development curricula or programs. Ideally this model would provide a method of analysis which would be useful in determining the processes or techniques for achieving different management development objectives. In addition to the presentation of this generic model, the report also includes a discussion of organizational factors found to impact upon the success of the management development process.

The final objective of the current effort was to examine the implications of the research findings for the management development

programs at DSMC. While the scope of the current contract effort did not include the formulation of specific recommendations, the report discusses various options available for revision of the management development curriculum of DSMC and organizational factors likely to influence the success of various options.

The information required to achieve these objectives was collected through a number of research methodologies. Data concerning the training environment and basic management development needs relevant to DSMC were obtained from examination of written documents and reports prepared by or for DSMC including the program manager job analysis flow chart prepared by ATI and the DSMC 84 report completed in 1982, interviews with DSMC faculty and administrators, and discussions with individuals who have completed courses at DSMC. Information on the state-of-the-art of management development in government agencies and industry was collected through review of published literature, surveys, telephone interviews, and on-site visits to several organizations conducting innovative management development programs.

Management in The 80s

Before one begins an examination of the changes occurring in management development programs throughout the United States, it will be useful to briefly examine some of the factors which are related to the perception that many of our organizations face a management crisis. The factors responsible for this crisis (regardless of whether it is real or only perceived) are playing a major role in determining the direction and the nature of the

revisions being made in many management development programs. At least some of these issues will be encountered by any organization attempting to improve its management development process regardless of whether the organization is a private corporation, a government agency, or part of the defense community.

There are four major issues which are frequently mentioned in the literature addressing the challenges facing management development professionals in the 1980s. Economic factors are providing a major impetus for changing management development programs. The economic problems faced by our country since the mid seventies have led to a growing concern about U.S. industrial productivity while at the same time resulting in substantial budget cuts for many programs in both industry and government. As a result, both line managers and management development professionals in industry and government have found their budgets under much closer scrutiny with an accompanying increase in efforts to strengthen managerial accountability for funds spent and costs incurred. In response to this changing orientation, and to justify investment in training, the emphasis in management development programs appears to be shifting from that of providing personal development opportunities for managers, to focusing on "performance based" or "results oriented" programs (Livingston, 1983).

A second set of factors which has influenced recent developments in management training are largely social in nature. While concern with industrial productivity has grown, so has concern over the "quality of work life" of the American worker (Nord, 1977; Wiggins & Stead, 1976). This concern combined with a changing value system among the American work force has created numerous problems

in providing managers with the knowledge and skills needed to motivate subordinates and develop effective work groups. Recent interests in what may be broadly labeled as "Japanese Management" styles and Quality Circles represents one reaction to these problems.

Changes in the nature of worldwide ecomonics and politics is a third set of factors influencing the management development area. This impact is one which is likely to remain long after the passing of the current "faddish" interest in the management techniques used by Japanese corporations which reportedly give them a competitive edge in industrial productivity. Of greater importance is the growing awareness that the role of the United States in the world economy and political scene is changing. The evolution of many developing countries into a Third World coalition with substantial political and economic clout due to control over numerous raw materials needed by industrial nations is changing the very nature of international management. These changes combined with a greater awareness of the interdependencies among national economies has spawned a growing interest in developing managers with a sensitivity to international issues and a decision making perspective which incorporates a truly "global" consciousness (Heller, 1980; Rehfuss, 1982).

The final set of factors which is beginning to shape the current state-of-the-art in management development is the rapidly increasing pace of technological change and what is often called the "information explosion". Technological revolutions in the areas of microcomputer technology and communications are changing the very nature of the information environment in which managers make

decisions. It is clear that the decision making process takes place in an environment in which managers have increasing amounts of data but less time in which to process the data (Ackoff, 1978). Furthermore, these decisions are made in a context of increasing instability which produces greater conditions of uncertainty than those faced by managers of the past (Ackoff, 1978).

All of the factors outlined above point to the fact that managers today are facing a number of challenges which will intensify in the future. Increasing rates of change combined with greater interdependencies among the worlds' political, economic, and social subsystems will substantially increase the complexity involved in the management of organizational systems of the future. Regardless of the unique mission or objectives of a particular type of organization, its managers will face many challenges related to one or more of the factors outlined above. For this reason, information concerning advancements in the state-of-the-art of management development in industry has significant implications for efforts to improve managerial effectiveness in government and military agencies. This will be particularly true for managers working in the area of acquisitions management which represents a major interface between the military, industrial, and governmental systems within our country.

CHAPTER 2

Two Models of Management Development

As one examines the literature published on the topic of management development he is immediately struck by the vast diversity of interventions, techniques, programs, etc. which are used in attempts to improve the effectiveness and efficiency of managers and executives. Efforts to evaluate the effectiveness of management development in the United States are hampered, at least in part, by the lack of some conceptual perspective or framework from which to examine this diverse body of programs or techniques. While there have been some previous efforts to develop such a conceptual framework (Parry & Robinson, 1979), these frameworks have never been fully developed nor have they had a significant impact in providing order to the chaotic body of literature on management development published in the journals. The present author found that the task of evaluating the state-of-the-art in management development was greatly simplified after he developed the conceptual framework presented in this section of the report. The framework is based in part on the work of Parry and Robinson but was primarily a direct result of the review of literature published on management development combined with the results of a survey of 17 public sector executive development programs which was conducted by a research team at the Central Intelligence Agency.

The bottom line of the conceptual framework developed by this author is that one can distinguish between two major models or approaches to management development. These two models differ in terms of the philosophies underlying the approaches, the general training environment and objectives for which they are appropriate, the learning methods or techniques which they incorporate, the outcomes which can be expected from their use, and the limitations inherent in each approach. The two approaches are labeled as the management education approach and the management development system approach. These two approaches actually represent two ends of a continuum with most programs falling somewhere in between the two pure forms described below. Furthermore, the quality of the actual implementation of either the management education type of program or a management development system can vary dramatically from one organization to another.

THE MANAGEMENT EDUCATION MODEL

The management education approach to management development actually has a relatively short history. It has gained in popularity since the 1960s and probably owes at least part of its rapid growth to the seemingly universal acceptance of the idea that graduates from MBA programs were inherently better managers than non-MBA graduates. If MBAs were a good thing, and since it was not feasible to send all managers to MBA programs, many companies sought ways to do the next best thing -- to develop or purchase management development programs covering the types of topics or using the techniques used in existing MBA programs. Often these management

education programs represent abbreviated versions of an MBA program which has been tailored somewhat to meet the needs of a particular type of industry or organization. Not suprisingly many of these programs are located at or sponsored by universities such as Harvard, MIT, George Washington University, or American University. These university based programs are often labeled as advanced management or executive development programs and some such as the programs at American University and University of Southern California grant graduate degrees after completion of the program.

Variants of the management education model programs exist in many other settings, however. The federal government sponsors a number of interagency management development programs which fall into this catagory such as the Federal Executive Institute (FEI). Many larger corporations have also established internal management development programs which follow the management education approach. Starcevich and Sykes (1982) review a number of these programs.

For those organizations which are not large enough to support an internal management development institute or for those organizations who wish to cover only a few selected courses or topics, there have evolved a large number of consulting firms marketing a wide variety of seminars and programs. These "off the shelf" packages show a considerable degree of variance in length, content, and quality but many of them show a strong resemblence to short courses or weekend seminars sponsored by business departments of many universities.

Regardless of the location or origin of these education type of programs, many of them share a number of similarities.

Characteristics

Programs which fall into the management education catagory tend to have fairly vague or very general objectives. Usually these objectives are stated in terms of broadening participants' perspectives or exposing them to new viewpoints so as to provide them with a more enlightened framework from which to view their role in their respective organizations. The curriculum in the programs tend to be fairly generalized and touch upon topics such as policy formation, decision making, strategic planning, and other areas commonly recognized as generic management and executive level competency needs. The programs often seem to be a means of introducing or even indoctrinating managers into a particular system or philosophy of management. The primary objective of most of the courses is to transfer information from the recognized expert teaching the class to the participants. The programs often have a set sequence of courses which all participants take but some of the programs such as FEI have a core program with "electives" chosen by the participants based upon their perceived needs.

Not suprisingly, these education programs focus primarily on cognitive aspects of development without emphasis on skill development. Often there is relatively little formal evaluation of the program participants' gains from the program. If any measures other than questionnaires on how well the participants liked the program are incoporated in the evaluation, the measures tend to be paper and pencil examinations measuring participants' absorption of

the information imparted by the course instructor.

Training Program Environment

The characteristics of the programs described above largely reflect the nature of the general context or environment within which these programs operate. The individuals who develop and administer these education type of programs usually have little if any input into the career development path of the participants in the program. Often the only feedback that the participant's manager or sponsoring organization receives is an indication that the participant successfully completed the program as evidenced by the certificate or diploma awarded at the end of the program. The administrators of these programs often have relatively little control over who attends the programs. While there is usually some requirement as to the level of experience or grade of the manager or executive who is qualified to attend, many exceptions are made. Furthermore, regardless of whether the programs are located at universities, interagency centers, or internal development and training institutes within a particular organization the programs' existence depend upon the number of participants they serve and thus there is some pressure to market the programs and recruit participants.

Another example of the relative independence of these management education programs from career development or progression is the fact that many of the participants do not attend the program as preparation for a particular target assignment. After graduation the participants often return to or remain in the same

position, although there may be a salary increase upon completion of the program. For this reason, these programs are often looked upon as a source of personal development for the individual manager.

Another critical factor influencing the general nature of these programs is that they often tend to service a fairly diverse clientele. That is, the university programs tend to attract participants from a variety of industries and organizations, the interagency federal programs service a variety of agencies, and the internal industrial programs at the corporate level depend upon participants from a number of different divisions who perform in a wide variety of managerial positions. The major implication of this is that the education type of programs must serve a very heterogeneous group of participants.

Instructional Methods

The instructional methods or learning experiences of participants in management education type of programs resemble those of traditional academic courses. These methods are primarily passive means of information transfer. Most frequently the instructional method is some form of lecture and class discussion. Case studies are often used and the program may also include at least one field trip to a relevant organization or governmental agency or representative. Many of these programs use a variety of guest speakers who are nationally recognized experts in their area. These speakers usually particpate in the program by delivering a single lecture and/or discussing their area of expertise in a single seminar session. Students in some programs are expected to

participate in the education of other participants by making a presentation on a topic they research or in their own area of specialization. The most active learning experience in this type of program and one which is used only infrequently is participation in some form of a business game or business simulation.

Probable Outcomes and/or Advantages

Given the nature of management education type of programs and the instructional methods used in this approach, one can expect certain outcomes to occur. Participants in the programs are likely to aquire a large amount of new information. This information may be of a technical nature or it may be information which serves as an orientation to a new philosophy or system of management. Often managers develop a better general understanding of the role of a manager or executive at their level in an organization. If the group of participants in the program is fairly heterogeneous, managers are likely to be exposed to a variety of new viewpoints which may allow them to view the organizational problems they encounter on the job from a new perspective.

There can also be a number of advantages related to cost and convenience of these programs. While in-residence advanced management and executive development programs at universities such as Harvard or MIT are very expensive and require removing the manager from his or her position for the length of the program, there are often local, part-time programs available at reasonable prices. Furthermore, other than the time of the participant and

cost of tuition and related expenses, education type programs require little additional commitment of organizational resources. Most importantly, they require little commitment of time and effort from upper level line managers because they are administered by staff personnel or individuals external to the organization.

Limitations

There are a number of negative outcomes which may be viewed as limitations which are also fairly characteristic of management education type of programs. Many of these limitations are directly related to the fact that the educational programs are not integrated into the career development system of the organization and are administered by individuals external to the organization with little or no direct involvement of line managers in the process.

These two factors and other characteristics of management education type of programs lead to the following limitations. First, the managers' attendance or participation in the program is not likely to coincide with the time at which he really needs the information. If he attends the program too early he will not understand the information or appreciate its usefulness while he will often be bored if he participates in the program too late in his career.

Second, it is usually assumed to be the responsibility of the individual manager to make the decision as to which information presented in the program is relevant to his particular organization.

This task is complicated by the fact that the information is often presented at a fairly general and theoretical level which can not be directly applied to the job. In a number of programs which incorporate case studies this problem is reduced and participants learn how the information presented is related to common organizational problems. Unfortunately, given the highly cognitive nature of the instructional methods used in these programs there is usually little or no development of the actual skills required to apply the new information effectively. Participants often have little or no opportunity to try out their new ideas in a structured learning environment. For example, many of these programs address the issue of decision making and decision analysis. In these courses the managers are often exposed to technical information on calculating cost/benefit ratios, calculating risk, the use of decision making models and decision support systems, and perhaps Vroom and Yetton's (1973) theory of how to choose different decision making strategies. However, the managers are unlikely to develop or practice the communication skills and information gathering skills which are prerequisites for making and implementing effective decisions in actual organizations.

An additional problem is that managers are not likely to receive any direct feedback concerning their own strengths and weaknesses as a decision maker. The lack of any assessment of participants which would provide insight into their individual strengths and weaknesses as a manager is another limitation of most education type of programs. Finally, there is often little follow-up or recommendations for continuing development plans upon completion of the program. The program is usually a one-shot time

limited learning experience.

MANAGEMENT DEVELOPMENT SYSTEMS

It is more difficult to describe the nature of management development systems than to describe management education progams. On the surface, this approach may seem like a throwback to an on-the-job management development approach based on the old addage of developing managers by bringing them up through the ranks. However, this is definitely not the case. One individual interviewed by the author characterized the traditional approach as a "mushroom model of management development". The basic philosophy behind the mushroom approach is that if you put entry level managers in the "basement" of the organization, kept them in the dark, and dumped a lot of work on them, then the truly good managers would mature and "grow". This haphazard approach places all responsibility for development on the individual manager. In contrast to this, the management development systems approach is characterized by a high degree of planning to provide managers with a variety of developmental experiences and requires a substantial degree of commitment and effort from line management. This type of a management development approach is less common than the management education approach and should not be mistaken for the lack of any effort to develop managers which is characteristic of a number of organizations employing the "mushroom model".

There is a relative paucity of literature on this systems

approach to management development in comparison to the hundreds of studies on management education type of programs. In the literature, this approach is often referred to as "applied management development" (Livingston, 1983) or "performance based" or "competency based" management development. While some organizations have used this type of approach for some time, it has received an increasing amount of attention in the last five to seven years. Organizations using this approach do not have a management development program so much as a management development system. While it may not be overtly labeled as such, effective implementation of this approach requires a systems perspective of the organization and the management development process.

All of the management development systems reviewed by this author were internally based and controled, although interviews revealed that many organizations made use of external consultants in various phases of the development of their system. Most of these management development systems were located in corporations in the private sector. While these management development systems are more organizationally specific than management education programs, many of them share a number of common characteristics.

Characteristics

Several characteristics seem to stand out when examining the published descriptions of organizations using management development systems and when talking to human resource development professionals involved in such systems. First, these programs seem to be very results oriented with a strong emphasis on developmental actions

which will have direct impact on managerial performance and the accomplishment of organizational goals. When describing the nature of his organization's management development system, one corporate vice president stressed that management development was integrated into the organization's strategic business plan and that developmental activities for managers and executives were undertaken as a means of accomplishing organizational goals. Second, in contrast to the cognitive, information transferral orientation of many management education programs, the main thrust of most management development systems is in skill or competency development with a focus on changing on-the-job behavior of managers. Moreover, while the objectives of many management education programs are fairly general, the interventions and developmental assignments which occur as part of a management development system are usually made with a clear objective in mind and often serve the purpose of preparing the manager for a specific target position.

Regular and fairly frequent assessment of individual managers' strengths and weaknesses is a key part of most management development systems. The techniques used for this assessment process differ greatly from one organization to the next. These techniques range from the use of assessment center approaches to individual interviews and management by objective performance appraisal systems. Regardless of the methods used, such individual assessment lies at the heart of these management development systems. A major part of this assessment process is increasing the manager's self-awareness of his streng.hs and weaknesses. Based upon the results of this assessment process, individual development plans (IDP) for each manager are developed and revised. These plans

often include a longitudinal sequence of interventions which occur before or between planned work assignments. The nature of these interventions varies greatly; however, the manager usually has substantial input into the plan and, in keeping with the adult learning model philosophy of many of these systems, has the primary responsibility for completing much of the developmental activity. Some but not all of the organizations using this systems approach make a concerted effort to identify top level management potential at an early stage in the management development process. Assessment centers are often used to accomplish this task.

Training Program Environment

It follows from the characteristics described above that several organizational factors must be present for such a management development system to operate effectively. The management development process should be integrated within or at least related to the organization's career development system. The lack of any manpower planning system and career development plan severely hampers the longitudinal planning required in an effective management development system. At the least, these management development systems seem to occur in organizations whose organizational philosophy includes a strong commitment to career development. Furthermore, a number of management development professionals specifically stated in interviews that their efforts to move toward a management development system were blocked due to a lack of commitment to career development on the part of upper

level management in their organization.

Another important factor in the training environment of organizations critical to the success of this type of management development approach is the establishment of a clear link between management development and organizational objectives of upper management. This is essential because internal management development systems require a substantial investment of line managers' time in developmental activities with subordinate managers. If these activities are not linked to organizational rewards they are not likely to be performed and the system will not operate effectively.

It also appears that these systems are more likely to appear in organizations which are willing to invest resources into a needs analysis process which examines organizational needs as well as individual manangers' management development needs. This and the other factors noted above would seem to indicate that the organizational environment which facilitates the development of a true management development system is one characterized by a commitment to strategic, long term planning both in terms of business strategy and manpower planning.

Instructional Methods

The instructional methods used in management development systems often include a much greater variety of methods than those of a pure management education program. However, it would be a

mistake to presume that there is no overlap in instructional methods between the two approaches. Indeed, the individual management development plans used by organizations with a management development system may often include sending a particular manager to individual management development courses, seminars, or even a university sponsored program. The difference is that these programs are viewed as only one tool to be used in the management development process and may not be used for all managers. As one vice president in charge of a management development system stated in an interview, "in our system, the job is the primary vehicle for development....the programmatic aspect of our system allows the managers to structure learning which takes place on the job."

Receiving heavier emphasis than the instructional methods used in the management education approach are learning experiences such as developmental job assignments and job rotation. Another technique used in some of these systems is the "shadowing" of role models who are upper level managers. Managers who are being prepared for movement to a higher level position may be assigned either individually or as a small group of 2 or 3 to essentially "shadow" or observe a manager working in the role which they will soon asssume. Usually a high degree of interaction between the role model and the observers is encouraged. This technique represents a variation of behavior modeling techniques which have been found to be very successful in the development of interpersonal skills in lower level supervisory training programs.

Some organizations also make use of assessment centers in their developmental systems. When used in this manner, the information obtained from the assessment center is used for developmental rather

than selection purposes and is usually controlled by the participants in the development program rather than upper level management. The participant's supervisor or manager will receive feedback on the individual's performance in the assessment center only if the participant decides to share the information. The primary use of the information is to help in the preparation of an individual management development plan for the participant.

Organizations using the management development system approach or moving toward use of such a system also seem to make greater use of complex simulations. Most of these simulations are not computerized. They are highly interactive with managers often working together in groups similar to work teams that occur naturally in the normal work environment. When questioned about these simulations in telephone interviews it appeared that many organizations had developed very specific simulations based upon critical incidents that had occurred within that organization.

Of greater importance than the variety of techniques used in these management development systems is the manner in which the techniques are used. Interventions such as sending a manager to a particular seminar or taking part in a simulation are usually planned so as to correspond to a point in that individual's development as a manager when the experience will be meaningful and the information gained or skills developed will be immediately useful and reinforced.

Probable Outcomes and/or Advantages

Given the differences between the management development

systems approach and the management education approach, it is not surprising that the probable outcomes and advantages of the two approaches differ dramatically. Given the objectives of the management development systems approach and the much greater congruency between the learning experiences and actual job performance one would expect a greater change in on the job performance of managers trained using a systems approach. The limited research evidence which exists and the opinion of those management development professionals involved in such systems tend to confirm this. More important than this is that the behavioral changes are also more likely to be directly linked to the accomplishment of organizational goals. Thus, a management development system is likely to produce a higher degree of skill development in managers in areas of competence directly related to the achievement of organizational objectives.

Limitations

While the probable outcomes of using a management development systems approach are highly desirable, there are a number of factors which are likely to limit the use of such a system. First, it should be realized that evidence has shown that the instructional methods used in the education approach are probably a more efficient and effective way to give managers factual, cognitive types of information (Carroll, Paine, & Ivancevich, 1972) than on-the-job developmental activities or complex simulations.

A second limitation is that such a management development system is very costly in terms of line managers' time which must be devoted to developmental activities. Without a strong career development commitment from top level management the required developmental activities will probably not take place.

A more serious problem exists which is inherent in any type of development program which relies on organizational role models or mentoring or tutoring types of activities. For this system to work, there must be an adequate supply of desirable upper level managers whose behavior is worth modeling. This often requires that such a management development system must be implemented in a top-down fashion to insure success. Furthermore, it is possible that the end result of the process will be essentially a cloning of the existing status quo. This may or may not be desirable depending upon the current effectiveness of those individuals' behavior and the effectiveness of such behavior given changes in the organization's environment in the future.

To avoid this problem and to provide an adequate data base for constructing longitudinal management development plans consistent with organizational goals, the organization must engage in long range planning. Unfortunately, the lack of long range planning and concentration on short term profit are weaknesses in the prevailing managerial philosophy which are responsible for many of the problems faced by American organizations today. Long range planning is even more difficult now than in the past due to the rapid rate of technological change. Some change in this organizational philosophy is probably a prerequisite for successful implementation of a true management development system.

CHAPTER 3

The State-Of-The-Art

The two management development approaches described in the previous chapter represent ideal or generalized examples of management development programs. The discussion in that chapter provides a framework from which to examine management development but does not answer the question of, "What is the current state-of-the-art in management development?" To provide the answer to this question, the present researchers relied on information from four different sources. These data sources and description of the data collection techniques used for each information source are outlined in the following section.

RESEARCH METHODOLOGY

Literature Search

The first source of information used in assessing the current state-of-the-art of management development in the United States was a computerized literature search of recent articles on the topic of management development published in business, training, personnel, and other professional journals. This search identified more than

500 articles on management development published since 1979. A copy of this briefly annotated bibliography was included as part of the working papers delivered to the contract monitor as part of the report. The research team reviewed approximately 250-300 of the articles from this list and other sources.

CIA Study

The second source of information was used primarily to assess the current state-of-the-art of Federal Government interagency management development programs and management education programs in university settings. This information was made available by researchers from the Central Intelligence Agency who conducted extensive interviews and on-site visits to 17 executive development programs in university settings and federal government agencies.

Survey

The third source of information used in assessing the current state-of-the-art in management development was the data collected on a survey mailed to 210 corporations. Most of these were listed by FORTUNE as among the top 200 corporations in the United States in 1982. These surveys were sent to individuals within the corporations who were members of professional training and development organizations. The mailing list was constructed to include only those individuals who were clearly involved in the management development process. These individuals occupied corporate level positions with titles such as Corporate Director of Management Development, Vice President of Human Resources, Manager of Management Development, etc. A copy of the survey is included in

Appendix A of the Report. Responses were received from 41 of the organizations with 37 usable questionnaires being returned for a response rate of approximately 18 percent. This response rate is fairly typical of surveys conducted with this type of sample (Digman, 1980).

Interviews and Site Visits

The fourth and final source of information came from in-depth telephone interviews with individuals administering management development programs in 16 organizations as well as on-site visits to three organizations involved in very innovative or unique management development efforts. The telephone interviews averaged a little more than one hour each and provided a means of gathering additional data on a number of programs represented in the survey results and from several new organizations not included in the survey. The on-site visits were made to The Center For Creative Leadership, The Army Research Institute, and Morrison Knudson Company. Each of these visits involved approximately 6 hours of data collection through interviews or discussion with various people involved in management development projects or programs within the organizations.

MANAGEMENT EDUCATION IN THE UNIVERSITY AND INTERAGENCY ENVIRONMENT

The data collected by the CIA research team provide striking evidence that existing training programs in university settings and interagency programs of the federal government adhere closely to the management education approach to management development. It should

be noted, however, that several programs examined by the CIA research team did not adhere to this management education approach. These were the 10 month full-time program of the Industrial College of the Armed Forces at the National Defense University and the internally controlled executive development systems of the General Accounting Office, the National Security Agency, and the Internal Revenue Service. These internal agency programs clearly reflected the management development systems approach to management development.

Excluding these four internally controlled programs, the remaining programs were quite similar with regard to a number of characteristics. As noted by Jan Smith (1983), one of the CIA research team members, the programs tended to have fairly general objectives and seldom attempted to formally evaluate the progress of the participants in the programs. The primary focus of most of these programs is to provide an educational experience which would aid in the personal development of participants.

The programs also were very similar in that they used relatively few techniques or processes in achieving their objectives. Most programs relied on the use of at most four or five traditional processes such as lecture, class discussion, case studies, guest speakers, assigned readings, class presentations by participants, or field trips. Many of the agencies sending executives to these educational programs also made use of developmental assignments and other on-the-job development techniques such as formal or informal mentoring systems. However, the actual education programs reviewed by the research team seemed to be only marginally coordinated with these on-the-job learning

experiences. They provided almost no feedback to the agencies of the participants regarding their managers' performance in the program.

Even though the programs had a number of similar objectives and used essentially the same instructional methods, they covered a wide variety of topics or subjects in their curricula. The research team identified over 25 different subject areas covered by these programs. On the average the education type programs covered 11 different subject areas with a range from 3 to 22 different subject areas addressed in the programs. There did not appear to be any systematic effort to use different instructional techniques for these different subjects. This may reflect the fact that all were essentially knowledge type of topics and many of the programs were quite explicit in making clear that they made no attempt to develop skills, only to increase knowledge.

One factor contributing to the wide range in the number of topics covered in the programs is the difference in the length and attendance requirements. The programs surveyed ranged from a 6 week part-time executive development program at George Washington University to the 10 month full-time Foreign Service Institute program and the 20 month part-time programs at American University and the University of Southern California (both of which grant graduate degrees upon completion of the course work). For programs of comparable length, there appeared to be little difference in the number of topics covered in the university and interagency programs.

It should be noted that the major difference between the results of the CIA study and the general model of the management education approach presented in Chapter 2 is that most of the programs

surveyed did allow a certain degree of freedom in structuring programs to meet the participants' needs. This is accomplished by the use of a core curriculum taken by all participants with additional "elective" seminars or courses chosen by each individual. This is the approach used by most of the university programs as well as the Federal Executive Institute. It is the participants' responsibility to make these decisions although they are usually provided with no formal means of making a needs assessment to determine which of the courses or seminars might be most relevant for their development. A notable exception to the general trend of providing no formal means of assessing one's needs can be found in the programs at the Federal Executive Institute which are briefly described below.

Federal Executive Institute

The Federal Executive Institute's Senior Executive Education Program has a structure which is similar to many of the other education type programs. The program is administered by internal faculty at the institute which is located in Charlottesville, Virginia. The program also makes use of faculty from the nearby University of Virginia. The objectives of the program are similar to those of the other education type programs--- to improve understanding of the executive role, strengthen individual capabilities, etc. The program is seven weeks in length and requires full-time attendance.

The three major topic areas covered by the seminars and

workshops in the program are (1) interpersonal and personal executive effectiveness, (2) management systems and processes, and (3) the environment of the federal executive (Murphy & Pak, 1979). These areas are addressed in seminars and workshops which comprise the majority of the program. Participants are allowed to select particular seminars which they will attend while at FEI.

The most unique aspect of the FEI program is the process by which learning takes place during the program. The faculty at FEI have rejected the traditional education model of "experts" transmitting information to "students" (Murphy & Pak, 1979 b). The program is based on an adult learning model which places a premium on increased self-awareness and providing participants with the opportunity for actively participating in the learning process. This is reflected in the fact that a major function of the FEI program is to provide self-assessment opportunities for the participants including the opportunity to complete a number of psychological inventories and receive extensive individual feedback from trained professionals in this area. This self-assessment information is used to help the participants structure a course of study while they are at FEI. The information is also used to provide insight into setting goals for future development after leaving FEI.

The adult learning model is also reflected in the instructional methods used at FEI. The seminars and workshops incorporate more of a class discussion or open forum model than a lecture format. Furthermore, the program includes a series of seminars which are conducted by the participants who share their ideas, experiences, and questions with other individuals in the

program. The program also makes use of learning teams which are small groups of participants who meet regularly to discuss course material and provide feedback to each other concerning progress toward goals.

The program at FEI illustrates that it is possible to incorporate some of the principles of a management development systems approach to development into a program which is basically educational in structure. However, it should be noted that the program does not attempt to provide development in specific skill areas; rather, its primary aim is to increase self-awareness of one's own strengths and weaknesses. It is left to the individual participant to make the translation of learning at FEI to change in performance on-the-job. This is reflected in the fact that FEI has made little if any attempt to incorporate any of the instructional methods such as simulations, behavioral modeling, etc. which have been developed to aid in the development and transfer of skills to be applied on the job.

MANAGEMENT DEVELOPMENT PROGRAMS IN INDUSTRY AND GOVERNMENT AGENCIES

The reader probably surmised from prior discussion that there is a trend in industry of moving toward use of a management development systems approach to management development. As Andrew Daly, retired Manager of Management Development at IBM noted in a recent article, "Management development shouldn't be a 'sometime thing.' Nor should it be identified only as a program or

school.....We should take steps to insure that the management development function is an integral part of the business. It should be an extension of the top executive's responsibility for the effective management and success of the business. There should be an involvement in the planning of strategies, policies, and the operations of the organization." (Daly, 1980, p. 89).

This movement away from primarily an education model is largely due to the recognition of the many limitations of this type of approach which were noted in Chapter 2. A number of professionals involved in the management development discipline have published articles highly critical of the education approach. For example, in an article appearing in the May 3, 1982 issue of FORTUNE, Harold Leavitt of Stanford University is quoted as saying "There's no evidence that management education works--any more than there is that any education works" (Main, 1982, p.248). As Jeremy Main, author of the FORTUNE article notes, however, "But the business world certainly seems to think it works. Many corporations have elaborate internal programs for the upbringing of their executives. IBM and Control Data require managers to take at least 40 hours of training a year, either in internal or external programs.. Xerox has a four tier program, beginning with a course in fundamentals of management and going on through a one week annual seminar for the company's top 250 people. Such commitment is convincing, even though much of management education still seems a crapshoot." (Main, 1982, p.248). Even more critical than Main, J. Sterling Livingston directly attacks the over-reliance on the use of management education programs for management development (Livingston, 1983). Commenting on management education programs,

Livingston notes that "the acquisition of knowledge is not enough, if you don't have the skills of application to follow through on what you've learned." (Livingston, 1983, p. 16). Livingston claims that most of the management education programs in university settings have failed to develop competent managers. In discussing the reasons for this failure Livingston notes that, "many critical managerial skills were not taught in management education programs. They were left to be learned on the job, where few managers ever mastered them because no one taught them how. The failure was also because what took place in the classroom often inhibited students' ability to learn from experience. They were too often taught theories of management that could not be applied successfully in practice..." (p.16). The direction in which Livingston thinks management development must move is toward what he labels "applied management development". This applied management development approach would include "an accelerating shift from generalized development to practical and specific applied training. And it means a radical departure from centralized training centers to a new array of communication links which can service people in scattered locations throughout the country...." (p.16-17).

Fulker (1982) notes that the factors present in today's rapidly changing world also call for a radical change in the management development process in the public sector of society. In commenting on the article written by Fulker and other articles in a series appearing in THE BUREAUCRAT, editor Leonard B. Fouliot comments that "...off-the-shelf seminars prolifically offered are primarily generic in nature and may or may not have any relevance or transference for managers participating in such programs. This

forum tends to confirm that management development programs should address specific competence requirements to deal with contemporary and changing technology and that the programs should be custom-designed to really make a difference." (Pouliot, 1982, p. 30).

Even though there is no shortage of criticism directed at the management education approach, this does not mean that corporations and government agencies have stopped using programs sponsored by universities or that internal programs will no longer include a great deal of classroom instruction. Rather, there is a growing trend toward integrating or coordinating this classroom instruction with on-the-job learning experiences. While some movement toward a management development systems approach is occurring, the extent of this movement is difficult to gauge. As Pouliot noted "...management development is still evolutionary and ...there are still many questions concerning ideal programs." (p.30).

The present author's experiences in completing this research project confirm Pouliot's assertion that management development today is in a period of rapid change. Many of the individuals who were interviewed by phone noted that the management development program(s) in their organization had undergone radical changes in the last 2 to 3 years. A number of them noted that their programs were currently being revised or were under study for future revision. In addition several of the respondents on the survey noted that they had limited evaluation evidence on their program because it was too new.

Presentations made by the senior staff members at the Center for

Creative Leadership and discussions the author had with a number of visitors to the center from major U.S. corporations reinforced the view that the most accurate statement one can make concerning management development is that it is in a state of change. Most of the individuals from corporations who were at the center came with hopes of getting help in revising their management development system or program. Because management development programs in the U.S. are in such a period of change, it is difficult to provide a concise description of the state-of-the-art in management development at this point in time. To label any single program or technique as representative of "the" state-of-the-art may be misleading.

While there appears to be some difficulty in obtaining consensus on the present state of the practice of management development in the U.S., there is a greater degree of consensus on the direction in which it is ultimately headed. The management development professionals interviewed by the present author were unanimous in agreeing that organizations were moving in the direction of planning and implementing integrated management development systems rather than continuing to invest resources in piecemeal educational programs and packages of questionable relevance to actual on-the-job performance.

The remainder of this chapter will focus on evidence concerning the extent to which industry and government have moved toward use of state-of-the-art management development systems which provide a planned sequence of developmental experiences for managers. This discussion will include information existing in published articles and information drawn from the research efforts of the CIA and the

present author. A number of exemplary programs will be discussed. The discussion will then turn to the issue of whether or not evidence exists to support the conclusion that these management development systems are more successful in developing competent managers than the less expensive management education programs.

EVIDENCE OF MOVEMENT TOWARD A SYSTEMS APPROACH TO MANAGEMENT DEVELOPMENT

In addition to the articles by individuals such as Sterling Livingston which tell us what we should be doing in management development, there have been a number of articles published in recent years which focus on issues and processes which are important to the actual development and implementation of management development systems rather than education type programs. A number of these articles present or evaluate needs assessment techniques which will allow management development programs to be tailored to the needs of individual managers while achieving organizational goals at the same time(Scott & Deadrick, 1982; Thomas & Siren, 1980; Oppenheimer, 1982). Other articles focus on evaluation techniques which may allow assessment of changes in actual on-the-job behavior and performance rather than relying on traditional measures of whether or not the trainees enjoyed the program or thought it was worthwhile (Digman, 1980; Clement & Aranda, 1982). There have also been a number of articles published on the use of mentors, tutors, and other on-the-job learning experiences to aid in the management development process (Woodlands Group, 1980; Klauss, 1981). Finally,

the most recent discussions of newer instructional techniques developed for use in the classroom environment focus on their performance based objectives and emphasize that the techniques such as simulations and behavioral modeling are designed to develop specific job related skills, not teach theory or leadership style (Olivas & Newstrom, 1981; Reigel, 1982).

While all of these articles provide evidence of the changing nature of the management development area, there are relatively few published reports on existing programs which have actually implemented these state-of-the-art ideas. The literature search produced only three articles describing existing programs which appeared to implement these state-of-the-art ideas (Nichols & Hudson, 1981; Langdon, 1982; Electric World, 1983). Two of these programs, one developed by the consumer products division of S.C. Johnson, Inc. (Johnson Wax) and the other developed by Morrison Knudson Co., will be described in some detail later in this chapter.

Before discussing specific programs, however, it will be useful to examine some general information obtained from the survey of management development programs in some of the top corporations in the United States. This information will provide a background against which to view the individual programs to be discussed later.

RESULTS OF THE MANAGEMENT DEVELOPMENT SURVEY

The survey used in the present study was constructed to provide answers to five basic questions. These questions were:

1. What informational topics and management skills are addressed in the programs?

2. What instructional methods and management development processes are used in the management development programs?

3. What methods have the directors of these management development programs found to be effective in developing particular management skills or knowledge areas?

4. What organizational factors enhance or hamper the success of these management development programs?

5. How do these organizations evaluate their management development programs and what evidence do they have that their programs are successful?

The Organizations

The 37 organizations which returned usable surveys represented a wide variety of organizations including manufacturing companies, major oil companies, utility companies, service industries, and banking and financial institutions. The management development programs described in the surveys varied considerably in terms of the number of managers involved in the program each year with a range from 24 to 12,000 managers a year. The median number of managers involved in management development programs in the organizations in the sample was 300. Approximately 40% of the organizations reported that more than half of the participants in their management development program were engineers or technical specialists.

Topics and Techniques

In surveying the literature to compile lists of possible management development topics and techniques to be included in the questionnnaire used in the current research effort, the authors identified 26 general topics and 20 different techniques. Table 1 and Table 2 present the list of management development informational topics/skills and management development techniques included on the survey. These tables also summarize the percentages of respondents that address the various management development topics/skills and the percentages that use each of the management development techniques or processes in their programs.

On the average, each organization covered 13 of the management development topic or skill areas using 14 various techniques or processes in their development program. Eleven of the 26 topic areas were covered by more than 50% of the organizations. By far, the most universal topics were "soft" or human relations type of skills such as leadership style, communication skills, team building, participative management, and stress management. Other commonly covered topics included decision making, budgeting, personnel administration, and career planning.

The topics or skills addressed by the majority of the management development programs in industry were quite different from those addressed in the education type programs in university settings and interagency programs surveyed by the CIA researach team. Although there was a high degree of overlap between the lists of topics/skills used in the two research studies, the data indicate that the areas of focus of the education type programs and the management development programs in industry were quite different.

Table 1

Respondents Addressing Each Informational Topic/Skill Area

Topic/Skill	Percentage Addressing Topic
1. Budgeting	54
2. Program/Product/Systems Development	46
3. Program/Product/Systems Evaluation	44
4. Contract Management	26
5. Decision making Under Uncertainty	79
6. Decision Analysis	68
7. Multinational management	33
8. Cross-Cultural Training	39
9. Production Management	47
10. Acquisition Process	14
11. Government Contracts/funding	11
12. Leadership style/skills	97
13. Communication skills	97
14. Oral presentation skills (briefings)	83
15. Team building	89
16. Personnel Administration	54
17. Participative management	75
18. Policy formulation process	36
19. Ethics	34
20. Lobbying Process	14
21. Computerized MIS or DSS	43
22. Impact of office automation	31
23. Career Planning	84
24. Stress management	80
25. Cost estimation	31
26. Business/Industrial logistics management	29

Table 2

Respondents Using Each Instructional Method

Instructional Method	Percentage Using Method
1. Developmental job rotation or assignment	78
2. Mentoring or coaching system	75
3. Feedback from performance appraisal/MBO	94
4. Lecture	84
5. Class Discussion	95
6. Non-computerized simulations/business games	74
7. Computerized simulations	36
8. Case study	87
9. Assigned readings	83
10. Tutoring	31
11. Role playing	89
12. Behavior modeling	80
13. Film or videotape presentation	100
14. Videotaping of trainee performance for feedback	92
15. Class presentations by trainees	83
16. Guest speakers	78
17. Field trips	47
18. Self-paced written material	42
19. Self-paced computer-assisted instruction	20
20. Tailored individual developmental activities	65

The programs in industry almost universally covered the communication, leadership, and team building skills areas while less than 50% of the education type programs addressed these practical concerns. This is exactly what one would expect given the cognitive orientation of education programs and the "results" or performance based orientation expected in the management development programs in industry.

Analysis of the data on the techniques or processes used in the management development process by the private corporations revealed some interesting findings. Fifteen of the 20 instructional techniques or processes were used by more than 50% of the organizations with 6 of them used by more than 85% of the organizations. The six methods which were present in almost all of the management development programs surveyed were:

1. Film or videotape presentations
2. Feedback from performance appraisals
3. Class discussion
4. Role playing
5. Videotaping of trainee performance for feedback
6. Case studies.

Approximately 75% or more of the programs also used the following techniques: lecture, class presentations by trainees, assigned readings, guest speakers, behavior modeling, developmental job rotations & assignments, a mentoring or coaching system, and non-computerized simulations.

The widespread use of class discussion, case studies, lecture, assigned readings, and guest speakers in these programs was anticipated and indicates that these programs still make use of techniques commonly used in management education programs. Role playing has traditionally been used in teaching communication and human relations skills in packages developed by consulting firms for industry and thus it was expected that this technique would be frequently employed in management development programs.

The fact that almost all of the management development programs in industry used videotape technology, not only as a means of presenting material to participants but also as a means of recording their behavior and providing feedback to the managers, came as somewhat of a surprise. The site visits and telephone interviews revealed, however, that almost all of these corporations had very sophisticated and well equipped audiovisual centers and many had fully equipped telecommunications centers capable of producing broadcast quality tapes. This use of videotape technology and the very high percentage of organizations using behavior modeling and simulation techniques represent a radical departure from the type of techniques used in education type management development programs. All of these techniques are related more to the development of actual behavioral skills and thus provide further evidence of the trend in management development programs to move away from an education model.

Relatively few organizations currently used either computerized simulations (36%) or computer assisted instruction (20%) in their management development programs. These percentages are somewhat smaller than what may be anticipated given the

relatively large number of articles published on these topics. The telephone interviews revealed that a number of the organizations were either studying the feasibility of developing computerized simulations or were in the process of developing such simulations. The site visit to the Army Research Institute was to gather information on such a management development simulation. The discussions at ARI revealed that the development time for such a computerized simulation was substantial and thus, it may still be some time before computerized simulations of a truly interactive nature are widely used in industry.

Further evidence of a growing performance based orientation in the management development programs in industry was revealed in the widespread use of various on-the-job processes such as developmental assignments, feedback from the performance appraisal system, and the use of a mentoring or coaching system.

Recommendations of Techniques for Improving Effectiveness in Different Informational Topic/Skill Areas

Perhaps the most surprising finding on the survey came from the section which asked the respondents to indicate the particular techniques or processes they would recommend for use in improving the effectiveness of managers in each of the 26 informational topics/skill areas. The respondents were encouraged to list up to three different techniques for each area. For 19 of the 26 topic/skill areas, the most frequently recommended technique for addressing the area was the use of class discussion and lecture.

The only areas for which non-educational type of techniques were clearly preferred was in the leadership and communications skills areas. Other techniques which were frequently recommended for many of the topics were the use of case studies, guest speakers, role playing, on-the-job training, and non-computerized simulations. The data from this section of the survey are summarized in Table 3.

The telephone interviews provided a partial explanation for these findings. Many of the individuals interviewed noted that, while the general orientation of their management development efforts was in skill development, they frequently used lectures and class discussion as a means to prepare managers to benefit from their work experience. However, they were quick to point out that much of the actual skill development had to take place on-the-job. With the exception of the use of role playing, behavior modeling techniques, and simulations these management development professionals expected to produce relatively little behavioral change using classroom instructional methods.

The telephone interviews also suggested that, when instructors in the industry programs were using education type methods such as case studies, lecture, and class discussion, the content they cover may differ substantially from that addressed in university programs. Several of the individuals interviewed made unsolicited comments to this effect. They noted that the case studies and simulations used in their seminars were based on actual critical incidents that occurred in their organization and were phrased in the terminology and cast in the same environment in which their managers normally operated. Several of the training directors also stressed that the seminars represented problem solving exercises which focused on

Table 3

Instructional Methods Most Frequently Recommended for Use in Addressing each Informational Topic/Skill Area

Given the past experiences of your organization, please indicate which of the techniques/processes you would recommend for improving the effectiveness of managers in each of the informational topics/skill areas listed in Section B. Please write in the number(s) corresponding to the most appropriate technique(s) in the space provided for each topic, but do not indicate more than 3 techniques for any topic/skill area. Section A contains the list of techniques.

Key to Technique Code Numbers

Section A

1. On-the-job-training
2. Lecture and class discussion
3. Non-computerized simulations/business games
4. Computerized simulations/business games
5. Case studies
6. Role-playing
7. Behavior modeling
8. Class presentations by trainees
9. Guest speakers
10. Self-paced written material
11. Self-paced computer-assisted instruction

12. Other _____

Summary of Recommendations[1]

SECTION B

Informational Topics/Skills	Techniques		
1. Budgeting	1	2	10
2. Program/Product/Systems development	2	1	5
3. Program/Product/Systems evaluation	2	1	5
4. Contract management	2	5	1
5. Decision-making under uncertainty	5	2	6
6. Decision analysis	2	5	6
7. Multinational management	9	2/5	1
8. Cross-cultural training	2	1/7	9
9. Production management	2	1	4
10. Acquisition process (e.g., defense systems acquisition)	2	9	1/10/5
11. Government contracts/ funding	2	9	10
12. Leadership style/skills	6/7	2	5
13. Communication skills	6	2	8
14. Oral communication skills (briefings)	6	8	2
15. Team building	2	6	5
16. Personnel administration	2	5	1
17. Participative management	2/6	7	5
18. Policy formulation process	2	5	9
19. Ethics (law)	2	9	5
20. Lobbying process	2/9	5	8
21. Computerized MIS or DSS	2	11	4
22. Impact of office automation	2	9	11
23. Career planning	2	5	6
24. Stress management	2	6/7	5
25. Cost estimation	2	1/10	4
26. Business/industrial logistics management	2	1/4/9	10
27. Other _____			

[1] Multiple numbers separated by a "/" indicate that the technique received an equal percentage of endorsements

technical information and the solving of actual problems rather than the discussion of some theoretical framework or model.

The fact that management development programs in industry are specifically tailored to one particular organization and often to a particular division within that organization allows the trainers to use traditional educational methods in their seminars to address specific organizational issues and problems. This makes the transfer of learning back to on-the-job behavior an easier task for the managers. Perhaps the most revealing example of this orientation was obtained in a telephone interview with the corporate vice president of a major corporation which was establishing its own advanced management institute. The individual stressed that all of the cases used by instructors in the seminars would be tailored to that organization and a computer simulation for aiding in the development of financial management skills was being developed specifically for their organization. The organization intended to make use of nationally recognized experts in a number of areas. However, these experts would be used only after they agreed to work with the organization to develop case studies and other materials that made their presentations directly relevant to the executives in the program. In contrasting this internal program to those existing in the university setting the vice president noted that, "Sending executives to external Harvard and MIT programs is great for developing the 'Renaissance Man' but when they return to the real job they can't apply it."

It would appear that even when the programs in industry use what would appear to be an education approach to management development, it differs considerably from the education type

programs found in university settings or interagency programs which must serve managers from a variety of corporations or federal agencies. More important than this is the fact that these educational seminars are much more closely coordinated with actual on-the-job learning experiences and are often attended by managers only after it has been established that they have a definite need for learning the specific information or problem solving skills addressed by the seminar in order to function effectively in their present or future position. This factor is likely to change the meaningfulness of the content of the course and the motivation of the individuals in the seminar as well. The job relevance of the content of these seminars was one of the organizational factors which many management development executives saw as critical to the success or failure of their management development programs.

Organizational Factors Related To Program Success

The management development survey examined the presence or absence of 10 factors which might contribute to program success. Data was also obtained on the extent to which the presence or absence of these factors had influenced the success of the programs. Table 4 provides a summary of the percentages of programs indicating the presence or absence of each of these factors. Most of the survey respondents indicated that their programs had at least some commitment from top management, that the program was relevant to organizational objectives, that trainees were given release time for attending the program, and that a training needs analysis had been conducted. It should be noted, however, that information collected

Table 4

Respondents Reporting Presence of Organizational Factors which Contribute to Success of Management Development Programs

Organizational Factor	Percentage Indicating Factor Present
1. Commitment from top management	95
2. Release time for trainees attending training programs	97
3. Reinforcement of new behaviors when returning to job	78
4. Relevance of program to organizational objectives	97
5. Availability of organizational incentives for participation in program	54
6. Long-term planning for career development	70
7. Integration of components of management development program	76
8. Training needs analysis	95
9. Selection process for trainees	87
10. Individual tailoring of program	76

in the telephone interviews indicated that the degree of commitment from top management varied considerably among the organizations and that the quality or accuracy of the training needs analysis data available to the training directors was also variable.

The factors which were least likely to be present in the organizations were organizational incentives for participating in the program and long term planning for career development.

The factors which were seen as having the greatest positive impact on management development programs were commitment from top management, the relevance of the program to organizational objectives, the opportunity to tailor the program to individual management development needs, release time for managers in the program, the availability of needs analysis data, and the integration of different components of the management development program. The factors whose absence had the greatest negative impact on success of the program were commitment from top management, relevance of the program to organizational objectives, availability of needs analysis data, integration of the management development program components, and reinforcement for behaviors learned in the program once the manager returned to the job.

Further information on the potential importance of these organizational factors for the success of management development programs is presented in the section of this chapter which compares programs which have evidence of success with those which do not.

EXEMPLARY MANAGEMENT DEVELOPMENT SYSTEMS

To provide the reader with a more concrete view of the nature

of these management development programs, the next section of the report will briefly describe the specific management development systems or programs of four organizations. These examples were chosen because they represent a variety of organizations (one federal government agency, the sales division of a manufacturing firm, a construction and engineering company, and a research and consulting firm) and all represent various aspects of what might be considered the state-of-the-art in management development. The contract monitor will be given more detailed information on all of these programs as part of the supporting material presented with this report.

Executive Development at IRS

As noted previously, the research findings from the CIA project reveal that a number of federal agencies have developed internal management development systems which obviously are moving away from reliance on a pure education approach to executive development. These programs were centrally controled by internal boards and were characterized by the use of individual development plans which integrated or coordinated developmental assignments and training experiences into a clear career development strategy. The executive development program at the Internal Revenue Service is an excellent example of this systems approach. This program is described in more detail than the others because it is structured on a 6 month time frame and has a high degree of relevance for consideration in the development of the new 6 month program for targeted program managers now under consideration at DSMC.

The executive development program at IRS has a long history of providing quality training for executive level managers. The Executive Selection and Development (ES&D) Program is overseen by the Executive Resources Board which is composed of the Deputy Commissioner of the IRS and the 3 associate commissioners from the agency. This board performs both manpower planning and management development functions. It is charged with the task of determining the number of executive level vacancies to be filled during the next year, selecting candidates for these positions, and providing them with the developmental experiences required to make the transition from manager of a functional specialty to the position of a multifunctional executive.

The development program itself is 6 months long, during which time the executive is basically under the control of the Executive Resources Board (ERB). Approximately 3 months of this time is spent in the classroom with the remaining time spent in developmental field activities and research projects. A critical part of the IRS program is the formulation of an Individual Development Plan (IDP) for each of the participants. Once an individual has been selected by the ERB he receives a package of preliminary readings and a self-directed package to instruct the participant in how to begin planning the IDP. The participant drafts his IDP following the package guidelines and his self-assessment of his management development needs. This draft is then reviewed by his supervisor and revisions are made. The IDP is then reviewed by members of the training staff during the orientation session which marks the beginning of the 6 month training program and is then finally

submitted to the ERB for revision and/or approval. The IDP outlines the candidate's developmental needs and describes the activities which the individual will perform to fulfill these needs during the individual development time scheduled during the 6 month development program. During the program, each participant is assigned a coach who is one of the 10 IRS assistant commissioners. At scheduled points during the program, the coach and the participant review the IDP and evaluate the participant's progress and make necessary revisions in the IDP.

The program begins with a 2 1/2 day orientation session which is then followed by either an 8 day unit of classroom instruction on tax administration or a 5 day simulation training exercise. These two segments of the program may be transposed depending on the schedule for that session but are always the first two training activities. The simulation is a time compression of activities required to function as a district director (one level above the target position which the graduates will occupy) and is fairly labor intensive with 21 staff individuals involved in the simulation.

After the simulation, the participants alternate between periods of instruction in the classroom on technical and administrative issues and spending time in various field placements "shadowing" executives. This shadowing process is considered to be a behavior modeling technique in which teams of two trainees are assigned to observe and work with key managers within IRS for period of a week. Each candidate shadows two different district managers during the 6 month program. Other trips into the field are made in small groups.

The participants are also exposed to two weeks of instruction

on the impact of computerization and automation on the executive role and receive hands on training in this area.

The participants have approximately one month of the program to devote solely to individual developmental activities outlined in their IDP. Near the end of the program the candidates also work in teams of 4 or 5 to complete a research project on an issue confronting the IRS. The team prepares a paper and presents the project to the ERB.

It is obvious that the IRS program represents a radical departure from the pure management education model. The program is a sequence of classroom and on-the-job learning experiences which are carefully planned and coordinated. In addition, the program allows a great deal of tailoring to the individual developmental needs of the participants and provides a structured means for assessing needs and evaluating progress in fulfilling these needs. The participants work one-on-one with an assigned coach during the program and the program itself depends heavily upon incumbent IRS executives to provide most of the learning experiences. Very little of the program is devoted to lecture and case studies and instead, classroom experiences consist of simulations, role playing, problem solving, and hands on computer experience.

The IRS considers the program to be very successful and attributes much of this success to several key organizational factors. First, the program has complete commitment from the upper level executives in the agency and most of them are directly involved in the program. Second, the program is directly linked to manpower planning and the selection process. The three functions of manpower planning, selection, and development are administered by

the same board. Third, the program is tailored to the individual while at the same time providing the participants with the skills which allow the organization to achieve its objectives. In other words, all of the developmental activities are directly relevant to achievement of organizational goals. This greatly increases the probability that the behavior developed in training will be reinforced when the individual moves back to the actual job. Finally, the agency is willing to commit substantial resources to the program, both in terms of money and executive time.

The one problem noted by individuals involved in the program is related to one of its major strengths---the heavy involvment of line management. Because incumbent executives have all participated in the program in the past and all function as instructors presently, they have a tendency to want to keep the program essentially the same as it was when they participated. Thus, it is difficult to make changes in the program when the environment in which IRS functions changes. (Additional detail on the IRS program is contained in supporting files presented to the contract monitor.)

The IRS program provides clear evidence of a movement toward a systems approach to management development in the federal government. Indeed, IRS may be considered a trend setter in this respect. The CIA research team also identified similar programs in existence in other federal agencies such as GAO and NSA. The research also noted that many federal agencies make use of a formal mentor or coaching system as part of their management development process. It should be noted that all of these programs were developed internally and are controled by a single federal agency rather than providing management development services to a variety

of agencies

Examples from Industry

The next two programs to be discussed are examples of individually tailored management development systems existing in industry. Both programs depend upon the assessment of management development needs of individual managers; however, they use very different processes to accomplish this task.

Individual Management Development Program at Morrison-Knudsen

Morrison-Knudsen (MK) is a large engineering and construction firm which is involved in large scale program management on a worldwide basis. The firm specializes in large program development on multi-million dollar projects such as the design and construction of structures at the Kennedy Space Center. The company also provides construction management services on large projects involving thousands of workers and the coordination of the efforts of numerous construction companies. The company has a strong need to provide a system of management development for engineers and other technical specialists who become program managers on these large projects. Although the firm has a number of different divisions, the management development function is centralized and located at corporate headquarters in Boise, Idaho.

In 1979, the company began the task of developing a management

development program which would meet the company's needs. The major goal of the progam was to provide results oriented training which would facilitate the development of actual management skills which would transfer to the job and improve performance (Langdon, 1982). The program which evolved is the Individual Management Development Program (IMDP) which is administered by the Learning Resource Center at corporate headquarters.

The program is centered on the needs assessment process which identifies the specific management development needs of individuals participating in the program. Once the individual needs are identified, a IMDP profile is constructed for the manager to use in scheduling the appropriate training sessions. The needs assessment process is conducted using a behavioral competency based needs assessment instrument. This instrument was developed by a consulting firm and modified for use in MK. A copy of this instrument and other material on the training program was obtained during the site visit to MK and are available from the contract moniter. The instrument is essentially a checklist of behavioral statements which describe important behavioral competencies related to successful managerial performance.

Participation in the management development program is currently on a voluntary basis, although a supervisor may recommend that one of his subordinate managers participate in the training program. Once a participant is identified, he either begins the needs assessment process or completes a seminar on the fundamentals of management. The seminar is taken by all individuals with less than one year of managerial experience and its primary purpose is to familiarize the individuals with the terminology on the needs

assessment instrument. It is the responsibility of the individual manager to complete the needs assessment process. This includes arranging for his supervisor or supervisors to rate him on the same needs assessment instrument that he completes. In addition, he is encouraged to have two or more subordinates complete the same form. At the end of this process, the Learning Resource Center has information from at least three sources concerning the manager's current strengths and weaknesses.

The Learning Resource Center then completes an IMDP profile for the individual. This profile is actually a folder with check marks indicating the areas in which the needs assessment indicated the manager could use training. These areas of training include those marked by the manager's supervisor and subordinates as well as those marked by the manager himself. The manager is not allowed to see the needs assessment forms completed by the other individuals although he is encouraged to discuss the outcome of the needs assessment with his supervisor.

The IMDP folder also contains a calender indicating when the Learning Resource Center is scheduling training sessions in each of thirteen different areas. These areas represent approximately half of the possible need areas which could have been checked on the IMDP folder. It is the responsibility of the individual manager to make arrangements to attend the appropriate seminars when they are scheduled. The training program is a modular type program with each of the areas having its own module which is completed in a four hour seminar. The modules are not self-paced and all of the work is completed during the class time. In effect, the program is tailored to a group level with different modules being covered on a rotating

schedule. The seminars are conducted in groups of approximately 15. The seminars use primarily lecture, class discussion, written exercises, and role playing instructional methods. The Learning Resource Center has a very sophisticated video tape facility which allows them to videotape trainees and use the tapes as a means of feedback.

The research team visited the MK Learning Resource Center and met with its director and the individual who conducts the management development seminars. The general impression gained in the interviews was that the program is one which has a great deal of potential but is hampered by a number of organizational factors. The factors which may limit the success of this program include a limited commitment from upper management, the lack of a career planning system, problems with the organizational needs analysis data, and the lack of integration of the in-class training with on-the-job developmental experiences. The lack of integration between the seminars and developmental work assignments is only one sign of the relative lack of involvement of line management in the management development process. Line management had limited involvement in the development of the program and does not participate as instructors in any of the seminars. The management development program is essentially a product created by the Learning Resource Center and they are in the position of trying to "market" the program to line management to recruit participants in the program. The fact that management development is seen as the responsibility of the training staff which has not attempted to integrate on-the-job developmental experiences as part of the IMDP is the major variable this author sees as a potential limitation to

the program's success.

The Management Skills Development Program at Johnson Wax

The second management development program to be described is one which more closely approximates a true management development system. This management development system was developed in the consumer products division of S.C. Johnson, Inc. (Johnson Wax) (Nichols & Hudson, 1981). Like the program at MK, the management development system at Johnson Wax is centered around a needs assessment of the managers participating in the program. However, the management development process at Johnson Wax is quite different from that at MK. The most striking difference is that the primary responsibility for the management development process in Johnson Wax is assumed by the line managers rather than the training division. Not surprisingly, the management development system relies heavily on on-the-job developmental activities supervised by line managers. Furthermore, in addition to using a written needs assessment instrument, the Johnson Wax program uses the assessment center procedure as an additional source of information in evaluating management development needs of individuals participating in the program.

The assessment center process involves the evaluation of a number of managerial skills through a variety of exercises. These exercises typically include performance on an in-basket simulation type of task, oral presentations, participation in group discussion exercises, and individual and/or group problem solving exercises. The individuals who participate in these exercises are observed by

"assessors" who have been trained to focus on the participants' behaviors and make accurate ratings on a number of performance dimensions. All of the participants are rated by multiple assessors who meet as a group and prepare a written report on the individuals' performance in the assessment center. This assessment technology was engineered in industry by AT&T and until recently was used primarily as a selection device. Because of the focus on actual behavioral dimensions and performance, a number of organizations have begun to incorporate the assessment center as part of their management development system (Olivas, 1980; Thornton & Byham, 1982).

Johnson Wax had used the assessment center method as its principal means of selecting sales personnel for promotion to managerial positions for five years before it developed a formal management development program. While the company valued the data obtained in the assessement center, it created a number of problems since it was seen as a one-shot attempt to gain promotion to a management position and was having a detrimental effect on the motivation of individuals interested in moving from sales to management. In an attempt to solve these problems the company's personnel and training departments worked with an outside consultant to study the problem. The research team collected data from those involved in conducting the assessment center, individuals who had participated in an assessment center, and general managers. The recommendations derived from this research effort led to the development of the company's current management development system.

It is important to note that the interventions involved in the development and implementation of this program were very extensive

and involved much more than the development of a typical training or development program. It began with the development of guidelines and a rating instrument to be used by field managers to identify subordinates who appeared to have management potential. The rating instrument is essentially a behavioral competency type measure which results in scores on 11 skill areas which had been identified in an earlier organizational analysis and used in the assessment center. Field managers are trained to use this instrument to evaluate managerial candidates. The same managers are trained to counsel the employees on career development and career planning. The management development program is only one aspect of this career development system. The field managers are also given manuals and training to guide them in constructing individual management development programs and planning and conducting developmental exercises and activities for management trainees.

Once an individual has been identified by a district manager as having the potential to complete the management development program and the assessment center he meets with the district manager in a program orientation session. During this session the district manager determines if the individual is interested in moving into the management area and discusses the management development process and options available to the individual.

The choice to participate in the management development program is made by the candidate. If he chooses to participate he is enrolled in the program and mailed a management process book. The book is an introduction to the program. The district manager also schedules what is called a program review session with the individual. During this session, the individual receives feedback

on the district manager's evaluation of his strengths and weaknesses and they discuss a general plan for developing the skill areas in which the individual needs improvement. At this point the district manager gives the individual the skill development booklet for the first skill area to be developed. The candidate reads through this self-paced book and completes a number of activities before the next session with the manager.

The following sessions between the district manager and candidate are called skill counseling sessions. After reading the first book the candidate schedules the first skill counseling session. At this meeting the district manager and candidate formulate a specific development program for that skill area. This plan includes self-paced assignments and on-the-job development activities. The plan also includes scheduled evaluation periods to monitor the candidate's progress. This procedure is repeated in a sequential manner for each skill area in which the candidate needs improvement.

After working through developmental programs for all of the skill areas, the district manager holds an evaluation session with the candidate to review overall progress using various assessment procedures. After this session, the candidate attends the assessment center (Management Skills Identification Center) to evaluate his performance in the 11 skill areas. After this evaluation the candidate is recommended for movement into a management position or counseled on a continuing development program.

It should be noted that this program is directed at development of managers at the district sales manager level and the development

process for higher level management positions is less formalized. Within this particular management level, however, the program is fully integrated with the career development system. Furthermore, with the exception of the administration of the Management Skills Identification Centers, the program is conducted on a one-to-one basis by line managers on-the-job.

Telephone interviews with several individuals involved in the administration of this management development system uniformly reinforced the view that management development is seen as the responsibility of line management. Furthermore, all of the individuals interviewed held the belief that on-the-job developmental activities were the most efficient means of producing skill development.

The program is currently under study to reassess whether the same 11 skill areas should be retained or if the program is in need of revision. The individuals also stressed the fact that while the program was very expensive to develop, the company considered it to be successful and cost effective. On the other hand, when pressed for specifics on evaluation data these individuals indicated that the data were primarily subjective, reaction type measures. One aspect of the study of the program being conducted at the time of the interviews was to develop better evaluation measures to obtain evidence of the success of the program. One indication of success which was evident was the fact that the assessment centers are conducted on almost a continuous basis and the management development staff were hard pressed to meet demands from the line managers. This is a clear indication that at least the line managers see the program as valuable.

The differences between the Johnson Wax and MK program are quite obvious. The integration with the career development system, the stress on on-the-job development, and line management's assumption of responsibility for management development all distinguish the Johnson Wax system. However, one should note that the Johnson Wax system was developed at great expense and involved interventions with existing managers to prepare them to participate in the development of new managers. These actions required a substantial commitment from upper management which may not be present in most organizations.

Center for Creative Leadership

The final example of a management development program to be examined in this section is very different from the first two. Actually, two programs will be discussed. Both of these management development efforts are programs developed at the Center For Creative Leadership in Greensboro, North Carolina. The Center for Creative Leadership is a fairly unique organization. The center operates as a non-profit research and consulting firm supported by the Smith-Richardson Foundation. The primary objectives of the center are to conduct research and promote development of creative problem solving and leadership skills in all segments of American Society.

Two of the center's programs have attracted the attention of management development professionals in industry. These are the center's leadership development program and the Looking Glass, Inc.

simulation. Looking Glass is a simulation of one day in the organizational life of a glass manufacturing corporation. The simulation is incorporated in a program called Workshop in Organizational Action which is conducted at the center and is used on an internal basis by industry. Both of these programs are of interest because they represent the state-of-the-art in programs developed by consulting firms. These programs can be used as a standard against which to judge other consulting packages.

Leadership Development Program

When the leadership development program was first introduced in 1973 it was 16 weeks long. The current program lasts 6 days. This dramatic change in length reflects a major change in philosophy regarding the objectives which can be accomplished in such a program. As stated by Bill Sternbeigh, a program associate at the center, the purpose of the current program is to "begin an on-going process of self-directed personal change to become more successful and productive in his/her work and personal life and become more effective in leading others to do the same". The program attempts to provide an opportunity for the individual to receive a great deal of feedback about their behavior in a non-threatening manner and to provide them with enough knowledge and proper motivation to begin changing. The goal of the 6 day program is to serve as a catalyst to begin the change process.

The program covers a variety of content areas covered by numerous other consulting packages. The most important feature of the program is the process used in the program. The 6 day program

incorporates many of the latest performance-based instructional methods and begins and ends with links to actual on-the-job behavior. Before attending the program, participants are sent a pre-attendance package containing various self-report assessment instruments as well as packages which are completed by their subordinates and mailed directly to the Center for Creative Leadership. The information obtained from the subordinates is incorporated in feedback given to the participants during the 6 day program. In addition to the self-report surveys and subordinate information obtained on the participant, the first day of the session is devoted to a mini-assessment center to obtain additional behavioral data. All of this information is synthesized by the program administrators and used to provide feedback to increase self-awareness of the participants and help them to set developmental goals at the end of the program.

Much of the program is devoted to working in groups on case studies, role playing, and engaging in problem solving exercises. Participants' behaviors are videotaped and played back as one form of feedback. At the completion of each exercise there is an extensive debriefing session to provide feedback to participants. The last two days of the program are devoted to receiving feedback and goal setting for future development. In addition to a 2 to 3 hour individual session with a program associate, each participant receives feedback from one of his peers assigned to observe his behavior during the program.

The program associates keep a copy of the development goals established by the participant. At appropriate intervals after the participant returns to the job, the program associate contacts the

individual to assess progress on the goals and provide advice if problems arise. The center will also assist the individual in contacting other individuals to establish a support group to aid in working on the developmental goals.

Thus, it is clear that this program makes an attempt to link the activities which occur during the program to behavior on-the-job. These links are created through the use of information obtained from actual subordinates of the manager during feedback sessions and the goal setting and followup procedures which occur at the end of the program. These two procedures, in effect, allow the program to be tailored to individual participants to improve its relevance to actual on-the-job performance.

Looking Glass Simulation

The Looking Glass simulation is one of the most sophisticated organizational simulations on the market today. The simulation was created over a three year period at the Center For Creative Leadership under contract with the U.S. Navy. The simulation has been used by organizations such as AT&T, Monsanto, and Merrill Lynch. The simulation is conducted at the center as part of its Workshop in Organizational Action. However, most of the runs of the simulation are conducted on-site within a single organization by one of the consulting firms licensed to conduct the simulation or by internal training personnel trained by the Center for Creative Leadership. It must be stressed that the simulation is NOT a complete training program. It is not designed to stand alone.

Rather, it is used as a tool to accomplish a variety of purposes depending upon the manner in which it is imbedded within a larger management development program. The Center For Creative Leadership stresses that the simulation should be used as a developmental tool rather than as an assessment center selection or evaluation instrument.

The simulation represents one day in the operation of a mid-sized glass manufacturing corporation. The simulation contains the roles of the top 20 managers in the corporation. The company is divided into three divisions and has an organizational structure similar to that found in many organizations of a comparable size. The 20 managers participating in the simulation should represent a heterogeneous group with respect to level of experience. For maximum effectiveness, the center recommends that roles be assigned commensurate with the managers' level of experience.

Prior to beginning the simulation, the participants are given extensive background information on Looking Glass, Inc (the name of the company in the simulation) as well as their own role in the company. The recommended procedure is to hold a meeting the night before the simulation in which participants meet each other, wear badges identifying their role in Looking Glass, and briefly discuss their backgrounds as well as the role they will assume in Looking Glass.

On the morning of the simulation, each participant goes to his office and has a desk complete with an in-basket of information pertaining to his role. The participants are given no direction in running the company and are left to deal with the problems in their in-basket as they see fit. The participants also have a phone with

a directory listing the numbers of other members of Looking Glass. During the 6 hour simulation mail is picked-up and delivered several times. Participants are allowed to write memos and call other participants as they deem necessary. Space is provided such that meetings can be held by groups of the participants. The participant playing the role of CEO holds one major staff meeting of all managers during the simulation.

The simulation was created to include appoximately 150 identifiable problems contained in the information given to the participants. During the simulation, all phone calls, memos written, meetings called, etc. are recorded and the participants' behavior is observed by trained staff members. The participants are given a minimum of structure and there is no interference by the training staff once the simulation begins. If a participant so desires, he can shut his office door and refuse to answer his phone.

The simulation is followed by approximately 10 hours of debriefing and feedback sessions. It is during these sessions that the participants receive the information which is critical to producing a change in behavior. These sessions must be conducted by a highly trained individual who is capable of providing constructive feedback and aiding paticipants in dealing with any anxiety or stress produced by the feedback.

It should be obvious that the administrative support required to conduct this very complex simulation is substantial. Space must be provided for 20 offices and a meeting room. A telephone system must be established which allows all calls to be recorded and a mail system must be set up which allows prompt processing of the mail and accurate recording of the origin and destination of each memo, etc.

Details for making all of these arrangements are provided in the operations manual. In addition to these resources, it is recommended that a minimum of five staff members be present when the simulation is conducted.

The simulation provides a wide variety of measures of behavior including objective measures such as number of phone calls and memos generated, problems dealt with; observers' records on behavior of participants; self-report ratings on why certain actions were taken, feelings experienced, etc; and ratings on behavior made by other participants. As was stressed by Reiko Sakata, a program associate at CCL, the successful use of the simulation depends upon the extent to which the remainder of the training program has provided a focus or direction for the simulation itself. The approach used in the debriefing will be in part determined by the purpose for which the simulation was run. The staff at CCL does recommend that participants be given the opportunity to request specific types of feedback about their behavior before the simulation is run. Arrangements can then be made to make appropriate observations and provide the participant with feedback on the desired dimensions.

The Center For Creative Leadership has published preliminary evaluation data indicating that the behavior shown in the simulation is directly related to actual on-the-job behavior displayed by participants. Thus, the feedback received by participants in the simulation should have direct relevance to their managerial behavior on-the-job. Given the variety of ways and purposes for which the simulation has been used, it is unclear how much behavioral change occurs as a direct result of the simulation. This question is unlikely to be answered in any easy fashion since the simulation is

never used in isolation. Those organizations which have used the simulation have provided very favorable ratings on reaction type measures. One organization intends to run more than 1,000 managers through the simulation as part of their management development process.

One question which should be addressed is the issue of whether the simulation can be tailored to a specific organization. The Center for Creative Leadership will not allow the simulation to be modified in any substantial manner. They suggest that since it took more than three years to develop and refine the simulation that it can not be easily modified due to its complexity. They also note that the setting of a glass manufacturing corporation was chosen deliberately to reduce the chances that managers in the simulation would be familiar with the technical details involved in the simulation. Staff members at CCL see the processes which take place during the simulation as the most critical factor contributing to development. They suggest that using a simulation in which managers become distracted by technical details due to their familiarity with a particular industry reduces the effectiveness of the simulation. This viewpoint obviously contradicts the views held by many of the management development professionals in industry who believe that a simulation should be tailored to a specific organization to achieve maximum transfer of training back to the job.

SUCCESSFUL VERSUS UNSUCCESSFUL PROGRAMS

There is very little doubt that the state-of-the-art management development programs are moving in the direction of a systems approach to development. However,the more important issue is whether or not these programs which require a greater investment of organizational resources are any more successful than traditional education type programs. Attempts to answer this question are hampered by a lack of reliable data. Despite the fact that the training and development business in the United States is a $30 billion dollar industry (ELECTRIC WORLD, May 1983), there is relatively little attempt made to evaluate the effectiveness of this training. This lack of evaluation is particularly true for management development programs for which objective measures of productivity or job performance can be difficult to obtain. As noted by a number of authors in the literature (Digman, 1980; Clement & Aranda, 1982), the common use of trainee reaction or attitude measures to evaluate these programs provides almost no meaningful information on whether the programs actually produce change in managerial behavior or improve managers' effectiveness in accomplishing organizational goals.

Most private corporations would like to demonstrate that their management development programs ultimately improve profitability of the organization. However, the literature suggests that the value of management development programs in aiding organizations to achieve this goal is accepted more on the basis of faith than the examination of the programs' accomplishments. Furthermore, even if measures of profitability are used for evaluation of the management development program, they have a tendency to be contaminated by various extraneous factors unrelated to training.

There are two approaches which may be used to evaluate the success of management development programs which are likely to yield useful information. First, one could measure whether managers acquired any new knowledge or skills in the training program or from the on-the-job learning experience. This could be done with a knowledge or skill test at the end of the training period. Second, one could attempt to measure whether the management development program had any effect on the managers' behavior once they returned to the job. This might be attempted in a number of different ways. Three possible measures immediately come to mind. These measures are changes on the managers' future performance appraisal ratings by superiors, changes in behavior noted by subordinates on questionnaires, or objective measures of change such as increased productivity measures or decreased turnover, etc. Of these three measures, the last is likely to produce the most reliable and least contaminated measure of change in the managers' behaviors as a result of training.

For the purposes of this report, a management development program will be considered successful if there is evidence of improvement on some objective measures of performance for managers completing the program. This definition of success is fairly stringent but appears to be appropriate particularly since there is increasing pressure to demonstrate that management development programs produce "bottom line" improvement in productivity. Given this definition, there were no state-of-the-art programs described in the literature which reported sufficient evidence to classify them as successful.

The survey used in the present research effort collected data

on whether the organizations had data indicating that their program was successful. The survey included questions about 9 different sources of information which might provide evidence of success. Table 5 presents data on the percentage of organizations which used each source of information in evaluating their management development programs and the percentage which were able to demonstrate success on each measure. The results of the present survey confirm the lack of effort to use objective evaluation measures noted in the management development literature. Between 80 and 95 percent of the organizations report evidence of success of their programs based on informal feedback or written reactions from trainees and/or their supervisors. On the other hand, less than 40% reported evidence of success on any other type of evaluation measure. Examination of Table 5 reveals that most of the organizations simply do not collect any evaluation data on their management development programs other than reaction measures.

Despite the caution which must be exercised in making the comparison, an attempt was made to determine if there were any differences between the management development programs in organizations reporting evidence of improvement in some objective measure of performance versus those which did not. The comparison was made between 14 programs classified as successful and 21 programs classified as no evidence for success (NEFS). The first analysis examined the topics/skills addressed by the programs and the techniques used by the programs. These analyses revealed that there were significant differences between the particular topics addressed by the programs nor in the measure of whether the particular instructional technique as part of

Table 5

Respondents Using Different Sources of Information for Evaluation

Source	Percentage Using	Percentage With Evidence Of Success
1. Informal feedback from program participants or their supervisors	94	89
2. Better performance on knowledge tests at the end of training	29	26
3. Better scores on skill assessment exercises at the end of training (e.g., assessment center type exercise)	17	14
4. Positive written reaction from trainees at end of session	100	94
5. Positive reaction from trainees after graduating from training and applying new skills or knowledge on the job	86	83
6. Improved performance appraisal ratings on trainees after the management development program experience	44	28
7. Improved ratings on survey results from the trainees' subordinates after graduation	40	29
8. Improvement in some objective measures of performance on the job such as increased productivity or less turnover, etc.	50	39
9. Increased profitability of work groups headed by people who graduated from the program	35	32

its management development programs. Likewise, there was little difference in the number of topics or techniques used in these programs.

While there were no overall differences in terms of the particular topics or techniques used in the programs, a very interesting pattern of results emerged from analysis of the recommendations of which techniques should be used to improve managers' knowledge and performance in different informational topics/skill areas. In general, the respondents from the programs reporting evidence of success were much less likely to recommend lecture and class discussion as a preferred method to address many of the topic areas. They appeared to prefer the use of other methods such as role playing, on-the-job training, case studies, simulations, and self-paced instructional methods. This data is summarized in Appendix B. The Appendix presents the most frequently recommended instructional techniques or processes which the two groups of respondents suggested as appropriate in addressing each of the topic/skill areas.

These results from the survey were confirmed by the telephone interviews. The directors of those programs which had demonstrated clear evidence of success tended to use a much greater variety of instructional methods and use different methods for diffent topics and purposes without an overdependence on lecture and discussion techniques. These directors did not down play the importance of these techniques; rather, they simply saw them as having a proper use for particular topics but not others. This would explain why differences did not occur on the section of the survey which simply asked whether the programs used a particular technique and the role

it played in the programs. Almost all of the programs used lecture and discussion and the successful program directors saw this technique as playing an important role in their programs----but only for certain topics.

Information gathered during the telephone interviews also suggested that there should have been differences in the presence of certain organizational factors contributing to the success of those programs classified as state-of-the-art. The most important organizational factors identified during the phone interviews were the existence of a career planning system which was coordinated with the management development program, the opportunity for individual tailoring of the program, and the availability of needs analysis data. When the survey data was analyzed, it was found that some differences did occur in the responses made by directors of successful and NEFS programs on the items related to these three organizational factors. All but one of the directors of the successful programs (94%) reported that at least 2 of the three organizational factors were present and enhanced their programs. For the NFES group, only 67% of the directors reported that 2 or three of these factors were present. A total of 33% of the directors of programs in the NFES group reported that less than two of these factors were present and 14% of these directors reported an absence of all three factors. None of the programs in the successful group reported an absence of all three factors. It might also be noted that 3 of the 14 programs categorized in the NEFS group who did have 2 or 3 of the factors present reported improved profitability after training but did not attempt to evaluate any objective measure of productivity other than profitability. If

these programs were also considered to have demonstrated sufficient evidence to be classified as successful, then the percentage of programs showing no evidence of success but having two or more of the enhancing organizational factors present would be reduced to 61% while the comparable figure for the successful programs would be 94%. Perhaps the best interpretation of these findings is that the presence of these three organizational factors is not sufficient to guarantee success of a management development program while their absence would certainly seem to increase the chances that the program was not successful.

FINAL COMMENTS AND FUTURE DIRECTIONS

In summarizing the existing evidence on the state-of-the-art of management development programs in industry, several conclusions can be drawn. First, all evidence indicates that the more progressive organizations are moving toward a systems approach to management development which will include seminars and other programmatic interventions coordinated closely with on-the-job developmental experiences. When working in the classroom environment, the trainers in these programs will place increasing emphasis on newer performance-based instructional methods designed to enhance skill development as well as knowledge acquisition. These techniques include behavior modeling, tailor-made simulations, and role playing with the use of videotaping for feedback purposes. As the need for managers to interface directly with computer systems increases, computer assisted instruction will become another instructional method used in the state-of-the-art programs.

A second fairly obvious conclusion which can be drawn is that organizations differ widely in terms of their progress in developing such management development systems. The telephone interviews indicated that this lack of progress is often attributed to the absence of a number of organizational factors particularly: (1) the lack of adequate integration of the career planning system and management development, (2) lack of an adequate training needs analysis, or (3) inability to obtain the resources needed to tailor the management development program to the needs of individual managers. All of the training directors also noted that strong commitment from upper level management was essential to establishment of an integrated management development system.

Third, while training organizations can develop management education programs with little involvement of line management, this is not possible in developing an integrated management development system. Line management must be involved from the initial planning stages since they must be relied upon to provide on-the-job developmental instruction when the system is implemented. In organizations such as the IRS which have developed the most progressive systems, management development is viewed as a primary responsibility of line management, not a function to be delegated to the training staff. This viewpoint was repeatedly stressed by several of the management development professionals who were interviewed. One of them noted that this responsibility was taken very seriously by top management in his organization and that the CEO reviewed all middle to upper level managers' individual development plans on a quarterly basis. As one training director in an organization noted, the implementation of an integrated

management development system requires a rethinking of the traditional relationship existing between training staff and line management. The training staff must function as a resource for line management which has the primary responsibility for management development rather than the training department functioning to develop programs which must be "sold" to line management.

The final conclusion reached by the research team is that if the organizational environment is supportive, the gains derived from a management development systems approach to management development are likely to outweigh its high costs. It must be noted, however, that the costs in terms of program development, planning, and time spent on instruction by line managers are considerably greater than those associated with an education type approach to management development.

Future Directions

The information collected in the telephone interviews seemed to indicate a fair amount of consensus concerning the future direction of management development. Three specific trends were discussed by a number of the management development professionals. First, they see management development programs as increasing their focus on behavioral competencies whose presence or absence can be measured for purposes of both needs assessment and for evaluation purposes. Second, there is an increasing concern about providing managers and executives with the appropriate skills needed to function in the increasingly computerized and automated environment. Many of the

training directors interviewed noted that their organizations were currently studying this issue and/or developing programs to aid managers and executives in finding ways to make appropriate use of this technology or at least not resist the implementation of it into their departments and divisions. The final trend was one which arose in organizations which trained program managers in charge of large multi-million dollar projects. The training directors in these organizations emphasized that they were increasing their emphasis on team building and participative decision making. They saw this as a managerial skill which was increasing in importance due to the substantial increase in projects in which their program managers worked on joint projects with other major firms. In these projects the managers could not make decisions or function in an autocratic manner. Decisions and actions had to be made as a team in order for the project to function smoothly.

In terms of the more general future of management development, the expectations of this author are that this systems approach to management development will continue to gain momentum in the future. Furthermore, as the top executives in organizations begin to see the benefits of this approach the nature of management development and its relationship to other functions in the oranization will change. The trend will be toward even greater integration of the management development process into other related systems or organizational functions. Two examples of this future direction will be briefly presented at this point.

The most logical point of integration of management development with other organizational functions is with the career development system. The integration of these two systems was considered crucial

by many of the training directors interviewed and is a major point of focus for much of their efforts in the future. One organization was undertaking a particularly ambitious project which also demonstrates the importance of needs analysis to the establishment of a management development system. This organization is an international corporation which must often move quickly in planning and implementing projects throughout the world. A key factor in the success of these efforts is the development of a pool of competent project managers to be tapped when an opportunity arises. The company is beginning to conduct a needs analysis of all upper level technical and managerial positions in the entire organization. The purpose of the analysis is to determine the competencies required to function in that position and the skills which will be developed by an individual who successfully operates in that job for a period of time. Ultimately, the organization hopes to derive a developmental matrix of the entire organization. This will be used in succession planning, the establishment of clear career paths within various functional areas of the organization, and aid in developing a management development system incorporating both developmental assignments and primarily self-directed management program modules. In essence, the career development and management development systems will be completely integrated into a single human resource planning and development system. The U.S. Army Research Institute is undertaking a research project to study the feasibility of constructing a similar developmental matrix for Army officers. Furthermore, in a recent article on the future of management development in the electrical utility industry, William Illing of Kansas City Power & Light Co., in response to a question as to the

future direction of management development in his organization replied, "...where KCPL is certainly going, is the integration of functions: Looking for linkages and interfaces to the point where you are developing a human resource planning and development system in which the pieces are tied to the manpower plan, which is tied to the functional plan, which is tied to the business plan, which is tied to the strategic plan, and where training is tied to all of these." (p. 60).

While some organizations are moving in this direction, one organization whose vice president of human resources was interviewed noted that his organization had already integrated the management development process with the strategic business planning process. This organization had undergone a major management development effort working from the top down in the late 1970s. Upper level management is completely committed to the development of subordinate managers and the system is designed such that the management development needs of managers are met while at the same time accomplishing organizational goals. One interesting aspect of this system is that when conducting the needs assessment for a particular manager, the strategic business planning group becomes involved by providing input into how the career path and future needs of the manager (and subsequently the organization) are likely to change as a result of predicted changes in the environment in which the organization operates.

Assuming that the proper direction in which to move in the revision of management development programs is toward development of an integrated management development system, certain guidelines and a generic model of this management development process were

developed by the current research team. This model and guidelines are presented in the next chapter of the report. Following the presentation of the model and guidelines is a discussion of specific needs and organizational factors which the authors feel that DSMC should consider in revising their management development curriculum.

CHAPTER 4

Guidelines for Developing an Integrated Management Development System

Beginning with this chapter, the major emphasis of this report will shift to providing guidelines on the steps required to develop a state-of-the-art management development system. The preceeding chapters should have provided the reader with a thorough understanding of what is meant when the author uses the term "integrated management development system". However, for the benefit of those readers who may examine only this and the proceeding chapter of the report, the characteristics of such a management development system are briefly listed below.

1. The system is an on-going process of management development not a time limited program with a set beginning and end.

2. The philosophy underlying the management development system is very "results" oriented with an emphasis on the development of behavioral competencies which are directly related to the achievement of organizational goals.

3. A critical aspect of the system is that developmental programs are tailored to the needs of individual managers through the construction of an individual development plan (IDP). This necessarily implies that some formal process exists to assess the individual manager's strengths and weaknesses.

4. The IDP provides a longitudinal plan of coordinated on-the-job and classroom interventions

and assignments designed to develop skills as well as increase the knowledge base of the manager.

5. The management development process is integrated or coordinated with the career planning system in the organization.

The list above includes only some of the more obvious characteristics of these programs and the reader is encouraged to read the preceeding chapters to gain a more complete understanding of the nature of this type of approach to management development. This understanding will prove to be invaluable in appreciating some of the guidelines presented in this chapter.

ORGANIZATIONAL FACTORS

Before presenting a generic model of the steps involved in the establishment of an integrated management development system, it is important to make some comment on the factors an organization should consider when debating the feasibility of adopting this approach to management development. The development of a successful management development system with the characteristics described above is a very expensive and time consuming process. Successful development and implementation of this type of system can not be accomplished by the training staff working in isolation from the rest of the organization. The organization should not seriously consider investing the resources required to develop such a system unless certain organizational factors are present.

First, it is absolutely essential that the program have very

strong commitment from the majority of the top management team. A pledge of commitment from the CEO is not sufficient. The entire upper management team must be commited to the program or it is not likely to be successful. This often requires that the management development process start from the top and move down. In this case, consideration of an integrated management development system should be delaved until some time after the entire upper management team has accepted the idea that management development is a cost effective process which will benefit the organization.

Second, since this type of an approach to management development relies heavily on on-the-job learning, it is important that line management view management development as part of their responsibility. This is likely to occur only if upper management clearly indicates that this is an important part of the organization's management philosophy. The clearest indication that this is part of upper management's priorities is that they reward managers who assume these developmental responsibilities.

Third, it is essential that the organization already have or is willing to develop a career or manpower planning system which is integrated with the management development system. Without some type of manpower or career planning system to identify the target position or positions for which a manager is being groomed it is impossible to form a longitudinal development plan for that individual.

Other organizational factors are also important to the success of an integrated management development system and some will be addressed in the remainder of the chapter. However, it is absolutely essential that individuals studying the feasibility of

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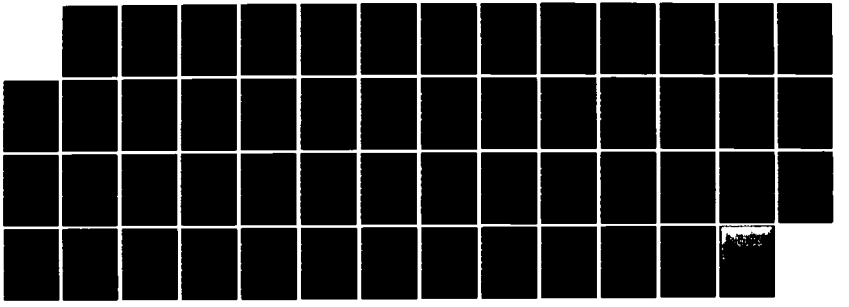

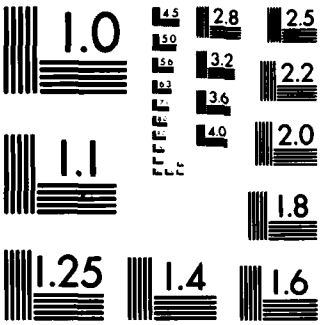

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developing an integrated management development system consider the three factors outlined above. The absence of even one of these factors may indicate problems in implementing an integrated management development system and the author would not recommend proceeding further with plans for such a management development system if more than one of these factors is absent.

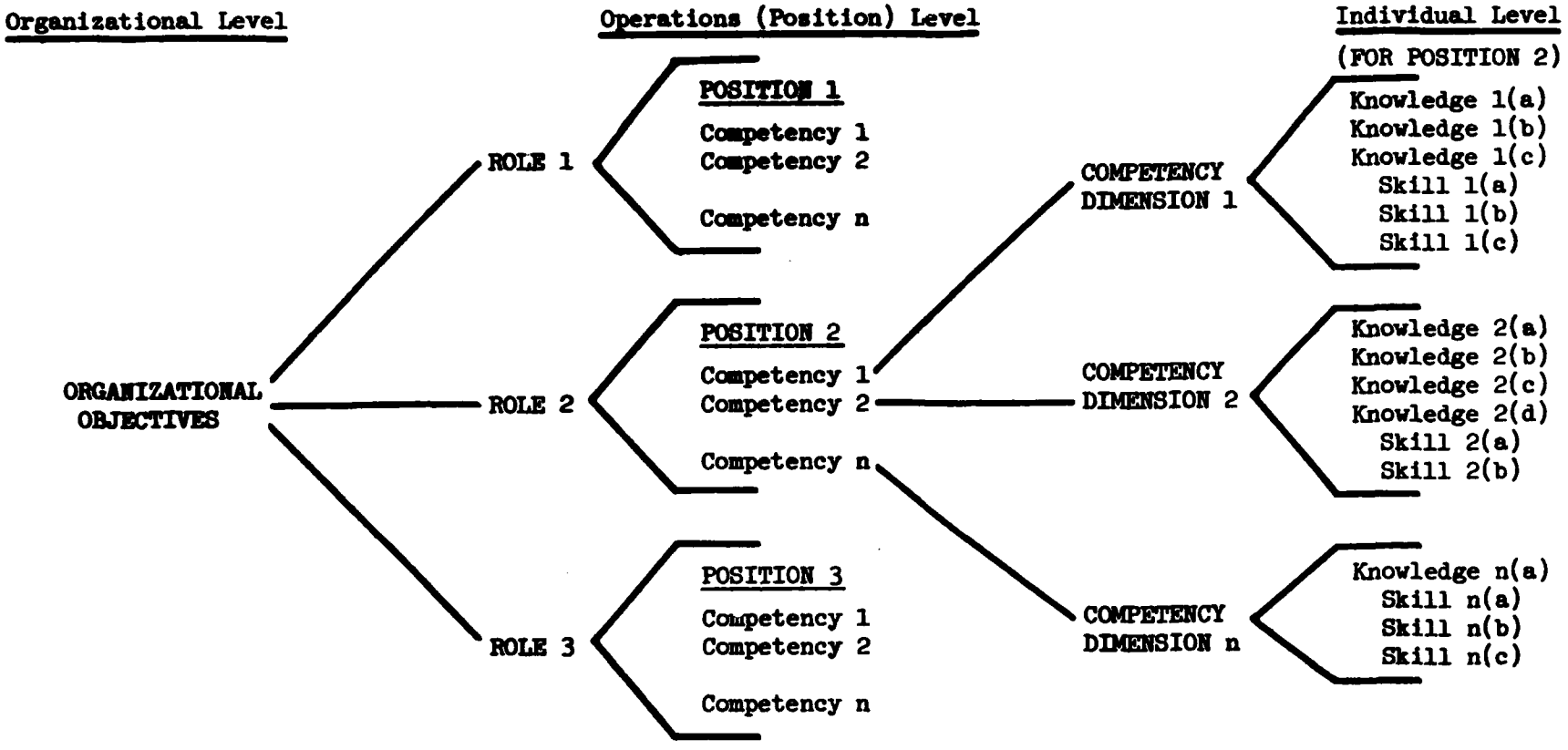
Assuming that the essential organizational support is present, the remainder of the chapter discusses the processes involved in developing an effective management development system.

PERFORMANCE-BASED NEEDS ANALYSIS

As the reader well knows, all training programs begin with some form of needs analysis. Figure 1 presents a graphic representation of the needs assessment process required in the development of an integrated management development system. The three phases of the process, the organizational analysis, operations analysis, and individual needs analysis do not differ conceptually from the needs analysis process recommended in standard training texts (Goldstein, 1974; McGehee & Thayer, 1961). A critical aspect of this process which is often overlooked is that the key to success in developing a performance-based training system is to ensure that the appropriate linkages exist between the assessment processes that occur at each level in the needs analysis. For example, at the organizational level the focus of the needs analysis is on organizational goals and objectives while the focus of the analysis at the operations level is on the particular tasks or competencies required to function in a specific management position. Ultimately, the organization will

FIGURE 1

Performance-Based Needs Analysis



benefit from a competency based management development program only if the competencies which are developed actually lead to the achievement of the organizations goals. Thus, the challenge lies in identifying those competencies which are directly linked to accomplishment of organizational objectives. Most organizations do not have the empirical data base to analyze which competencies are related to accomplishment of these organizational objectives. For this reason, the link between competencies and organizational objectives is usually based on a judgment call and the relationship is far from perfect.

The same problem exists in making the transition from the operations level to the individual level. While we often talk about measurement of an individual's competencies, we are usually assessing some combination of knowledge and skill which is related to competency in performing a task but not identical to actual performance of the task. As noted in Figure 1, competencies may have different configurations of knowledge and skill components.

There is no way to avoid a certain degree of error in moving from the level of assessing organizational objectives to the level of measuring and developing an individual's skills and knowledge. However, this error can be minimized if one is aware of the problem and takes the appropriate steps to avoid it. The most effective means of minimizing these types of errors is in planning and implementing all phases of the needs analysis as a single comprehensive research effort rather than relying on data collected in piecemeal needs analysis efforts using different methodologies which provide incompatible data. The most efficient approach is to decide how the information collected at one level will be linked to

the information collected at the next level before any decision is made as to the needs analysis instruments or methodology to be used at a particular level of analysis. Possible methods to be used at each level of analysis and factors to consider during each level of the needs analysis are outlined below.

Organizational Level

The needs analysis process at the organizational level includes analysis of the organization's goals, manpower planning forecasts, and forecasts concerning changes in the internal or external environment of the organization. All of this information is needed to assess the current state of the organization and to identify likely areas in which there will be a need to train managers. Once these general areas have been determined the level of analysis shifts to that of the operations or task analysis phase.

The most common procedures used to secure information on organizational goals and forecasts of future change are through interviews with the top management team or forcasting specialists who are part of the strategic planning division of the organization. An alternative means of gathering this information would be through the use of a Delphi method or a Nominal Group Process (Scott & Deadrick, 1982). The interaction which occurs between members of the group may provide additional information which would not be obtained from individual interviews.

To aid in linking the organizational objectives obtained in this phase of the needs analysis to the competency areas or task statements obtained in the next phase of the needs assessment it

will be useful to discuss the role played by various positions in the organization in achieving the organizational goals identified by upper management. Thus, the executives' perceptions of the role played by managers in particular positions may serve as a means of linking organizational objectives to behavioral competencies required to perform that role.

Operations (Position) Level

Traditionally, the needs analysis done at this phase has received the greatest attention. A wide variety of job analysis techniques including observation, interviews, panels of experts, work diaries, and questionnaires have all been used to identify the tasks or behaviors required to perform a particular job. Each of these procedures has its particular strengths and weaknesses (McCormick, 1979).

More recently, the nominal group technique has been suggested as a means of gathering information on training needs (Scott & Deadrick, 1982). The author sees a number of problems with using this group method and would suggest that a more appropriate technique would be to use a behavioral competency checklist. A number of consulting firms have developed generic lists of behavioral competencies required to perform a job. These needs assessment instruments are relatively easy to use and the contract monitor has examples of two such lists in his supporting material files. Typically the instruments simply require an individual to indicate whether or not the stated behavioral competency is required in the position being analyzed. Often the instruments will be

completed by several incumbents in the position and the managers at next level or next two levels above the target position.

Two problems do arise in the use of such instruments. First, the terminology used in some of these checklists may allow the items to be interpreted in a variety of ways and may lead to inaccurate results. This can be avoided by providing some minimal training for all individuals using the needs assessment checklists.

A more serious problem with this form of needs assessment is trying to determine whether the competencies identified by the individuals completing the instruments are actually related to effective performance in the position. The competencies they check are likely to be related to what these individuals consider effective performance to entail but that does not necessarily relate directly to the accomplishment of organizational objectives identified as important at the organizational level. Futhermore, these individuals may be unaware of anticipated changes in the internal and external environment of the organization which will change the competencies required to perform in a particular job. Some indication of the extent to which these errors might exist can be determined by obtaining a measure of the role perceptions the individuals have for the position they are evaluating on the behavioral competency measure. This role perception can then be matched against the role perceptions of upper management who are establishing the organization's goals and/or the role changes expected to occur in that position as a function of changes in technology, etc.

Traditionally, once a set of competencies needed to perform in a position had been defined, the next step was to begin assessing

the competencies possessed by individuals who were to be trained for entry into that position. If one is to develop an effective management development system which incorporates on-the-job development it is necessary to perform additional data collection at this level of the needs analysis. This is true because it is necessary to identify not only the competencies required to perform in a position but also the skills and/or knowledge which will be developed while working in the position. This information is necessary to determine the developmental potential or objectives which could be accomplished by a manager filling the position. This type of analysis can be complicated when it focuses on specific behavioral competencies. It is beneficial to think of a behavioral competency as having two components, a knowledge component and a skills component. In fact, when we state that a manager has mastered a particular competency we are indicating that he has a certain knowledge or insight and the skills required to apply that knowledge in a productive manner.

Once we have broken the behavioral competencies into various skill and knowledge components we can begin to discuss common skills or knowledges which are important to different behavioral competencies. This may allow one to identify particular skills or types of knowledge which a manager would develop while performing the tasks required in that position.

This separation of behavioral competencies also aids in making the transition between the operations and person level of the needs analysis and will be useful in the design of the actual development program. If the same behavioral competency checklist is used to

rate the position and the individuals being developed for the position, then no problem in moving from one level to the next is encountered. However, if a different form of assessment such as the use of an assessment center is used at the individual level, then the separation of competencies into skills and knowledge components may be very useful.

Individual Level

The needs assessment process at the individual level is a very critical part of the integrated management development system since the results of this needs analysis will be used to tailor a development plan for the individual manager. If this needs analysis is done using a behavioral competency checklist to indicate the various strengths and weaknesses of the manager, it will be essential to use a technique such as that used by Morrison -Knudson. In their system, a needs profile is developed based upon behavioral competency checklists completed by the manager being assessed, his manager, and subordinates under the manager. The unique perspectives of all of these individuals should be considered and particular attention should be given to areas in which two or more of the raters consistently indicate a need for development. The developmental needs of the manager can then be determined by comparing his behavioral competency profile with that required of an individual entering his target position.

Another popular method of assessing individuals' developmental needs is through the use of the assessment center method. This method was described in the preceeding chapter when the Johnson Wax

program was discussed. It also provides evaluation information stated in behavioral terms and makes use of multiple observers. A major advantage of this method of individual assessment is that the analysis is based on actual observation of the manager's behavior rather that self-report measures. Assessment centers are very labor intensive, however, and the time required for training assessors can make this method prohibitive. As was apparent in the Johnson Wax program, it is possible to use both of these assessment procedures to provide alternative measures of the same skill or competency dimensions.

MATCHING DEVELOPMENTAL OBJECTIVES TO INSTRUCTIONAL TECHNIQUES

The final outcome of the needs analysis process is a needs profile which indicates particular performance dimensions or competency areas in which a manager needs improvement. We will discuss the construction of an Individual Development Plan (IDP) to meet these needs later in this chapter, but first one must address the issue of how to select the components of that developmental plan. That is, how does one select a particular instructional method to use in the development of a particular competency or topic area? This brings us to the issue of matching instructional methods with developmental objectives.

There have been several previous attempts to provide a framework from which to choose different management development techniques for different training objectives (Newstrom, 1980;

Carroll, et.al., 1972). Newstrom (1980) notes that there is a fair degree of consensus among training professionals that certain techniques are more appropriate for certain training objectives than others. He outlines a number of training objectives and suggests the most effective instructional method for each objective. Unfortunately, Newstrom's model ignores a number of training objectives particularly important in the management development process. Furthermore, the model does not include a number of the newer performance-based instructional methods.

One of the reasons for conducting the management development survey as part of the present research effort was to obtain data that would be useful in making recommendations for the use of various techniques for development of different skills or topic areas. The author had hoped that there would be enough consistency among respondents' recommendations of techniques for improving performance in specific informational topic/skill areas to provide some guidelines for this selection process. The results of the survey do not allow this type of a recommendation. Furthermore, after examining the survey and conducting the telephone interviews with various management development professionals, it occurred to the author that a different approach to the issue was required. The rationale behind the model of matching instructional methods to developmental objectives and the guidelines derived from the new approach will be the topic of discussion in the remainder of this section of the report.

Progress in developing a model of selecting various instructional methods to use in the management development process did not occur until the author ..ur d to the basic question of

what it is that must be done in the management development process. The general assumption that appears to implicitly underlie the management education approach to development is that a manager will be effective if he "knows what to do". Thus, this approach concentrates on imparting knowledge to the individual. It is obvious, however, that managerial effectiveness depends on much more than "knowing what to do". There are four basic reasons as to why managers may not perform effectively.

1. The manager may not know what to do. In this case we have a problem of a lack of knowledge.

2. The manager may not know how to do something. In this case the manager may know what to do but lacks the skills to apply the knowledge.

3. The manager may not know when to take a particular action. It is possible that the manager has the appropriate knowledge and skills to act but fails to do so because he lacks the overall perspective required to understand his role in the organization.

4. The manager may not display an effective behavior because he does not want to. Essentially, this is a problem of attitude. A manager may not display a behavior because he simply does not believe that it will result in an outcome which is rewarding or. The manager in this case is lacking a reason as to why he should display the behavior.

It is clear that all of the above factors may be responsible for a manager NOT displaying a particular action or behavior. Furthermore, there may be more than one factor causing the deficiency and it is likely that these factors are interrelated. Thus, if we are faced with the problem of a manager not displaying behavior indicative of a particular behavioral competency, there may be four possible causes for this situation. The most efficient

development process would be to identify the particular cause or causes for the problem and select instructional techniques which directly address that need or needs. This would suggest that the first question which must be addressed in selecting an instructional technique for a particular topic or competency dimension would be to determine which of the following developmental objectives is critical to producing the desired change in behavior. These developmental objectives include:

1. Providing managers with an appropriate knowledge base to perform the task.

2. Developing skills required to translate a knowledge base into effective actions.

3. Provide the manager with an integrated perspective of his role to help him develop the "insight" needed to respond appropriately at the appropriate time.

4. To foster an attitude which enhances the probablility that the manager will choose to display behavior which is organizationally effective.

These four developmental objectives are not unique to any particular topic or competency dimension. Different topic or competency areas included in a management development program may require a heavier emphasis on one developmental objective rather than another. Often, this is likely to be a function of the skills, knowledge, etc. which managers possess prior to entering the program rather than an indication that one of the factors is not important to effective performance.

It should also be noted that two managers diagnosed as having the same competency profile may differ greatly in the benefit they

will gain from any particular instructional technique because they differ in terms of the cause for their deficient competency area. One of the managers may lack the knowledge base while the other may lack a particular skill. Thus, within the same competency need area, these two managers must pursue different developmental objectives if they are to become competent. This implies that management development programs conducted with groups of managers must often include a variety of instructional methods for each competency area to ensure that the entire range of developmental objectives is achieved.

While it is impossible to provide a foolproof list of instructional techniques guaranteed to accomplish each developmental objective outlined above, some general guidelines can be presented. We will first address each of the developmental objectives independently and then discuss the integration of these various objectives and instructional techniques into an integrated management development system.

Instructional Techniques For Informational Transfer

Probably the most common developmental objective addressed in management development programs is to provide managers with a body of knowledge about a particular topic. While the content of this body of knowledge may differ substantially from one topic to the next, research has indicated fairly conclusively that the acquisition of factual information is most efficiently accomplished through traditional instructional methods such as lecture, guest speakers, and presentation of films or videotapes; or through the

used of self-paced methods such as programmed instruction modules, computer assisted instruction (CAI), or interactive video-disk instruction. Several studies have demonstrated that programmed instruction methods are a more efficient means of knowledge acquisition than lecture and class discussion (Carroll, et. al. 1972)

The choice of which of these informational transfer techniques should be used in a particular seminar depends on a number of factors. A comprehensive discussion of these factors is beyond the scope of this report, however, several key factors will be briefly noted. One important issue which should be considered is whether the content should be designed to be covered in a group lecture session or presented in a self-paced individual format. As the heterogeneity of the managers increases, greater efficiency will be gained from self-paced methods such as programmed instruction and CAI. On the other hand, as the difficulty or complexity of the material increases or the requisite level of knowledge of managers learning the new material decreases, the use of lecture methods in which the trainer is available for answering questions and clarifying material becomes more efficient.

The use of verbal versus graphic presentation techniques is another issue to consider. Films, videotapes, and CAI are information transfer techniques which can be used to present information in nonverbal formats. Recently developed interactive video-disk technology provides the greatest range of possibilities in this area but development costs for this type of instruction make it prohibitively expensive for most organizations at this time. These graphic representations of material are likely to be useful in

relaying various types of mathematical, scientific, and statistical data.

The use of primarily verbal versus nonverbal presentation modes also raises the issue of different cognitive styles of the learners in the class. While it is widely recognized that these cognitive styles impact on the efficiency of various instructional methods, research data does not exist to provide specific guidelines to the trainer. The theoretical frameworks most commonly addressed in this research are those of cognitive complexity, the Myers-Briggs Typology, and Ned Herrmann's brain dominance model.

Instructional Techniques for Skill Development

Before addressing the issue of which instructional techniques should be used for developing actual managerial skills, one must first define what these skills are. A great deal of research has been devoted to the identification of generic managerial skills which generalize across managerial levels and organizations (Hemphill, 1959; Tornow & Pinto, 1976; Thornton & Byham, 1982). This author feels that one can identify six general categories of skills which are important to the development of a wide variety of managerial competencies. These skill categories are broader than those identified in the research cited above and include:

1. Written Communication Skills
2. Listening and Oral Communication skills
3. Interpersonal skills
4. Information Processing Skills
5. Organizational Action Skills

6. Specific Technical Skills

The first two of the above categories should be fairly self-explanatory. The category of interpersonal skills includes behaviors related to sensitivity to the feelings of others, effective counseling and interviewing skills, ability to provide constructive feedback, etc. It is assumed that effective communication skills are a prerequisite to the development of effective interpersonal skills.

The information processing skills category includes abilities related to collecting information, organizing information, analysis of information, synthesis of information, and decision making.

The organizational action skills relate to the ability to plan and organize a program or project. These skills represent the cognitive component of implementing various actions which are the products of processing incoming information. These skills include planning, organizing, delegating, designing control procedures, policy formation, etc. These are complex cognitive skills. They do NOT reflect the regurgitation of factual knowledge and are not easily measured. The measurement problems arise because the behavioral evidence of these cognitive processes are mediated by the individual's written or oral communication skills.

The final category of skills are specific technical skills which may be required for competence in a particular area. For example, competency in certain financial management areas requires the development of certain skills related to the interpretation and production of financial statements, balance sheets, etc. These skills differ from factual knowledge in that they can not be

developed through an information transfer process and actually represent a conceptual perspective or framework which the individual has developed. Another example of such a specific skill would be the ability to use a computer keyboard. This skill will greatly enhance the likelihood that a manager would make effective use of a computerized information system or decision support system.

There are a variety of techniques which can be used to develop these six different types of skills. The development of good written skills in managers has received increasing attention in the literature (Beam, 1981). Essentially the only way to develop good written skills is through practice. The important point to be stressed is that many managerial functions require the preparation of written reports, memos, letters, etc. It is often assumed that the formatting of such reports can be left to secretarial support staff and that such detail is not appropriate material to be addressed in management development programs. The actual success of a manager will be greatly enhanced if he is able to communicate effectively in the various written documents he prepares. This often involves understanding when a particular style of writing is required and knowing how to write for a particular audience.

Written assignments can be included in most seminars and should be designed to give the manager an opportunity to use the same forms, report style, etc. he will use once on-the-job. The preparation of written reports can also be one aspect of on-the-job developmental activities. While on the developmental assignment the manager could gain valuable practice in preparing reports, etc. under the guidance of an experienced line manager. The feedback

gained during this developmental assignment could save the manager embarrassment or a costly mistake when he assumes his new assignment.

The most appropriate instructional techniques to be used in the development of verbal communication skills (both listening and speaking) are role playing, behavior modeling, and non-computerized simulations. The effectiveness of all three of these techniques will be enhanced greatly if the behaviors are videotaped and then played back to the participants to provide feedback. Class discussion of the behaviors displayed during the exercises is another important source of information to use in providing managers with an increased awareness of their behavior. Development of communication skills involved in formal oral presentations such as briefings can be developed by having managers deliver such briefings to the class and videotaping the briefings for feedback purposes. This process may be even more effective if it is possible for an individual of the same level or rank of the person for whom the actual briefings will be prepared to be present during the in-class presentations. This individual could then provide his feedback on the briefing. (This assumes feedback will be given in a constructive fashion).

An important point to be remembered in selecting or developing exercises for these communication skills is that the context developed in the roles or simulation environment is critical to the success of the exercise. If an exercise of this nature is to be effective, managers must accept the exercise as a valid developmental experience and should be able to generalize easily from developing skills in the exercise to applying skills

on-the-job. This argues for the use of organizationally specific exercises. The most successful exercises are often those whose context is provided by a relevant critical incident which actually occurred in the organization. If these types of simulations and role playing exercises can be developed, then the development of communication skills can be integrated with the coverage of various knowledge areas. It is this type of integration which facilitates transfer of learning to actual on-the-job behavior.

The development of interpersonal skills can be accomplished through use of the same instructional methods used for developing oral communication skills, i.e. role playing, non-computerized simulations, behavior modeling, videotaping. It is important that these exercises occur in the framework of a task oriented context. Too often, exercises designed to develop interpersonal skills in managers cast the manager in a role which is very dissimilar from that which he will occupy on-the-job. As a result, the manager finds it impossible to apply the techniques learned in the exercises to the actual situations encountered on job.

A variety of different methods may be used in developing information processing skills. Instructional techniques which may be used in the classroom environment include case studies, non-computerized simulations, computerized simulations, and assignment of problem solving tasks. Class discussion and the debriefing sessions following simulations are an important part of these instructional methods. Development of such skills may also be enhanced by allowing the manager to work closely from an observational standpoint with a line manager (shadowing technique) or working on a task force assigned to research an actual

organizational problem.

It is important that these instructional methods be closely integrated and coordinated with the presentation of various topic areas covered by informational transfer techniques. This will allow the managers to gain experience in actually applying the cognitive knowledge to a particular problem solving situation. It is also important to note that the different techniques listed above will be differentially effective in addressing specific information processing skills. For example, computerized simulations and case studies are very effective means for developing the skills of organizing, analyzing, and synthesizing information. On the other hand, non-computerized interactive simulations, group problem solving exercises, shadowing, and assignment to on-the-job task forces would be a more effective means of developing information gathering and participative decision making skills.

A number of management development professionals interviewed by the author felt that computerized simulations were very effective in aiding in the development of information processing skills. They felt this was particularly true with regard to the processing of financial information related to competencies in the area of budgeting, program development, etc.

The same techniques useful in developing information processing skills are likely to be useful in developing organizational action skills. The only difference will be that the focus in this case will be on the plans formulated to implement a decision rather than the diagnosis of the existing problem. Once again, sophisticated computer simulations may be particularly useful in developing the cognitive skills related to various types of financial or production

management actions. The development of strategic planning skills can be enhanced by highly interactive computer simulations because the manager is able to receive immediate feedback on a number of "what if" questions by examining the effects of changing various parameters in his plan or the environmental conditions he assumes are operative when the plan will go into action. It should be noted, however, that such simulations are extremely expensive to develop due to software development costs. Developmental assignments to work on task forces may also be very useful in development of organizing and planning skills when a competent role model is heading the task force.

The instructional methods used to develop specific technical skills must be chosen on the basis of the specific content area related to the skill. These instructional methods should allow the manager to apply the relevant base of knowledge in solving problems similar to those in which the knowledge base must be applied on the job. The more the instructional exercises are tailored to a particular organization, the greater the transfer of learning which should occur to actual on-the-job behavior. The exercises should be designed to provide feedback and reinforcement to the student during his initial attempts to apply his knowledge. The difficulty and complexity of the exercise can increase after an initial level of confidence has been established.

Instructional Methods for Use In Providing an Integrated Role Perspective

The task of providing managers with an integrated perspective as to how the various knowledge areas and skills they have developed are related to their role in the organization is a challenging task. Essentially, the challenge is to provide the manager with a perspective which is not usually gained until he has occupied a position for some period of time. Thus, one method is to provide some form of a synthetic experience. An instructional method which may allow this would be a complex non-computerized simulation which represents a time compression of the role the manager will occupy after completing the development program. The IRS district manager simulation is an example of such a simulation. Another technique which may provide a similar perspective is the assignment of the manager to shadow an individual working in the role which he will assume. Both of these instructional methods may serve as an orientation to a particular role if it occurs early in the developmental process or a means of synthesizing a number of learning experiences if it occurs later in the program.

Case studies, class discussion, discussions with guest speakers, counseling sessions with a line manager assigned as a developmental coach, and completion of an applied research project or working on a task force are other techniques which may facilitate the integration of different learning experiences. In addition to developing an integrated perspective or consistent view of the micro environment of his role, it is important that the manager develop some macro perspective on how his role interfaces with others within the organization and with individuals and agencies outside of the organization which will have an impact on his performance and/or be influenced by his actions. This might be accomplished through the

use of guest speakers, case studies and simulations designed specifically for this purpose, or trips to the field to interact with individuals in relevant external agencies.

Instructional Methods to Facilitate Attitude Change

A major factor which reduces the impact of management development programs on managerial behavior on the job is that changes in this behavior often require a change in attitude. This change in attitude is often related to the expectations the manager has concerning the probable outcomes of engaging in a particular behavior or action. Even if a manager has all the needed competencies to perform a task and feels that it is an appropriate part of his role, the behavior is not likely to occur if the manager perceives that it would result in negative consequences for him as an individual (e.g. rejection or hostility from peers, subordinates, or his superior). Development of a positive attitude is to a large extent dependent on certain organizational factors such as the philosophy of upper management and reinforcement of behaviors learned in training when the manager is on-the-job.

Certain instructional techniques may be useful in facilitating the development of an attitude which will increase the chances that the manager will display effective behaviors when he returns to the job. These techniques include behavior modeling, role playing, simulations, shadowing, and coaching by an assigned line manager. In all of these techniques, the important factor is that they provide an opportunity to help the manager develop the expectations

that effective behaviors will be rewarded. This can occur through either of two processes. First, the manager can engage in the behavior and be rewarded by someone whom he values, ideally an individual whom he associates with the environment of the actual work setting. The second option is that the manager observes another person being rewarded for engaging in such a behavior. This is most likely to be effective if the behavior is observed in an actual work setting, for example, while the manager is shadowing someone.

A final technique that may be useful in facilitating the development of a positive attitude related to effective performance would be through setting performance or developmental goals at the end of the formal development program. The commitment to these goals is likely to facilitate continued progress, particulary if a followup interview on goal achievement is scheduled. There are also some preliminary research findings on a technique called relapse prevention which may be useful in sustaining the behaviors developed in training once a manager has returned to the job (Marx, 1982).

On several occasions in the above discussion it was noted that these various instructional techniques will be more effective if they are presented in some coordinated fashion. Ideally, the particular content areas and sequence of learning experiences would be tailored to the needs of an individual manager. The final section in this chapter briefly outlines some guidelines which may be useful in integrating the various management development techniques described above to construct such an Individual Development Plan.

CONSTRUCTING THE INDIVIDUAL DEVELOPMENT PLAN (IDP)

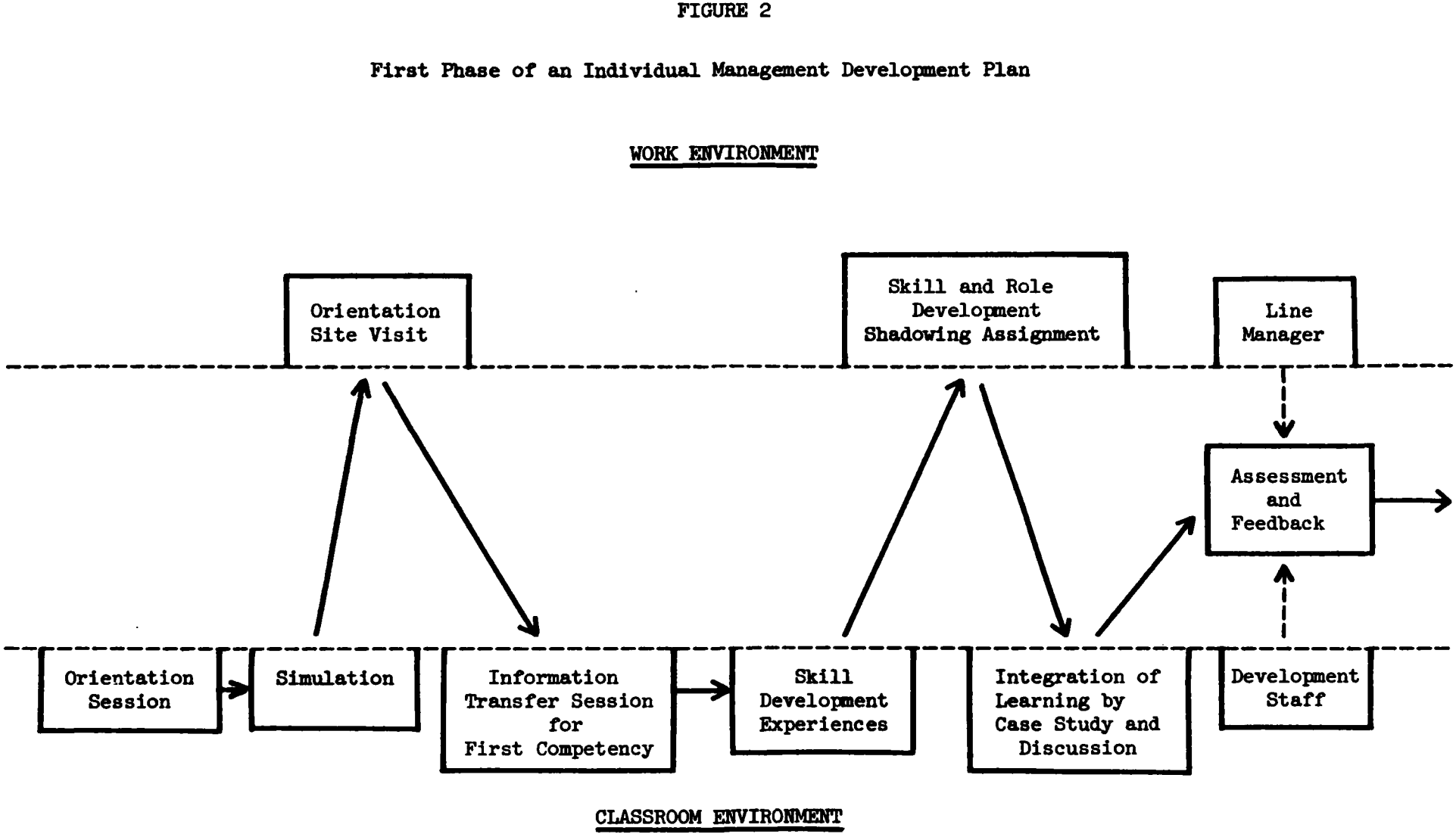
Regardless of the method used to assess the individual manager, the end product should be a profile of needs stated in terms of the performance dimensions, behavioral competencies, or the skills and knowledge required in the manager's current or future position. This profile will then serve as the basis for constructing a development plan for that manager. This IDP will outline the particular seminars, courses, developmental assignments, and other activities which will be used to provide the individual with the needed developmental experiences.

The degree of structure provided in this plan will depend upon a number of circumstances. If the manager is not scheduled for a promotion in the near future and he is developing the plan as part of a long term career plan, the best strategy is to provide relatively little structure in terms of scheduling particular courses and allow the manager to assume this responsibility. On the other hand, if the individual is part of a management development group targeted for a new position, then the activities in the IDP must be carefully planned and coordinated with the development plans of other group members who have similar developmental needs and the schedules of line managers who will provide on-the-job developmental instruction.

If at all possible, the development plan should be constructed such that the manager moves back and forth from on-the-job experiences to sessions in the classroom with other managers participating in the management development process. Figure 2

FIGURE 2

First Phase of an Individual Management Development Plan



provides a graphic representation of this type of a developmental plan. The optimal sequence of events would probably be as follows:

1. Orientation to the management development process

2. Orientation classroom experience providing a perspective of how his future position fits into overall organizational process

3. Simulation or brief on the job exposure which is likely to provide some increased self-awareness of need areas

4. Information Transfer session covering a particular knowledge area

5. Related skill experience(s) in class

6. Related on-the-job skill developmental activity

7. Integration activity

8. Assessment/feedback session

9. Repeat sequences of steps 4-8 for different competency areas identified as needs.

As the individual progresses through his developmental program, the on-the-job experiences should become more involved and the integration activities would also increase in complexity. These activities should begin to build on previously mastered competencies and more closely approximate the actual work situation into which the manager will move after completing this developmental phase of his career. Near the end of the developmental sequence the knowledge areas should include activities which provide an orientation of how the manager would interface with other elements in the organizational environment.

An important part of the IDP should be the scheduling of

evaluation periods during which the individual's progress will be assessed and any necessary changes in the IDP will be made.

While many of the programs in industry are increasingly focusing on the use of performance based training and assessment using behavioral competency checklists, the developmental plan for the individual must also include experiences which will allow the person to integrate what he is learning. The point which must be kept in mind is that a competent manager is more than the sum total of a behavioral competency checklist. If the manager does not have an integrated perspective of his role in the organization his ability to function effectively in accomplishing his main organizational objectives may be impaired by his concern for achieving perfection on various subtasks which were clearly identified as part of his position. To use an old saying,the manager will "no longer see the forest for the trees". The integration activities included in the manager's IDP should provide these types of experiences.

CHAPTER 5

The Current State and Future Options for Management Development at DSMC

The information collected by Drs. Pence and Reed through reports written about DSMC and in interviews with past graduates and present faculty members and administrators provided evidence that the current management development programs at DSMC are primarily management education type programs. DSMC, like many other interagency training organizations, must serve a very diverse group of students. At any one point in time, the PM course is likely to contain individuals with a wide range of experience in the acquisitions management area and from a wide variety of organizations. The individuals interviewed noted that the programs needed more emphasis on skill development, more learning experiences which would provide students with the opportunity to begin integrating material, and a means by which students could tailor the program to their individual management development needs. These are all comments which are commonly made concerning education type programs.

There are a number of differences between DSMC and the other education type programs reviewed in this research project. The instructors at DSMC used a much greater variety of instructional methods than the typical education type program. Furthermore, they

used a number of instructional methods such as role playing, the use of videotaping for feedback, and computer simulations which were used by performance-based programs in industry. Finally, there is a much greater emphasis on evaluation of students at DSMC than in other programs operating in similar training environments.

Like many of the organizations in industry, DSMC is studying the possibility of revising its management development programs. A number of efforts have already been undertaken as part of this effort (i.e. DSMC 84 and the ATI job analysis). A major question which must be answered in planning any changes in the present DSMC programs is whether or not it is possible to establish a state of the art management development system at DSMC for use in the development of Program Managers. Until recently this did not appear to be a possibility. This was due to the fact that like many external training organizations, DSMC had limited control over the selection of students, no input into their career development, and often the students came to the PM Course without any idea as to when or if they would receive a program manager's job. These factors would prohibit DSMC from developing programs similar to those in industry or at the IRS.

Modifications in The Existing Education Program

Even under these circumstances there are a number of improvements which could be made in the management development

courses at DSMC. First, it should be possible to establish some means of conducting an individual needs analysis on each student when they enter the program. This might be done by sending the student a self-guided behavioral competency checklist to be completed before the student arrives at DSMC. Furthermore, the same measure could be mailed to the student's supervisors and some of his subordinates if his past position provided the student with an opportunity to display a reasonable number of the behaviors included on the checklist. This process is used by Morrison-Knudson and even the 6 day leadership development program existing at the Center for Creative Leadership is able to use a similar method of obtaining information on the participants in their program.

The behavioral competency profile generated from this information could be compared against a generalized program management position profile in order to generate a management development needs profile for each student. The use of a behavioral competency assessment process would be much more feasible than the use of an assessment center approach due to the large number of students participating in management development programs at DSMC and the labor intensive nature of assessment centers. With a reasonable amount of effort, the scoring of forms and generation of the needs profiles could be computerized to handle the large number of students who attend DSMC.

Besides using the needs profile to provide feedback to the students to increase their awareness of their strengths and weaknesses, the profile could also be used to guide the students in selecting elective courses at DSMC. It is imperative that DSMC restructure its curriculum to allow at least some tailoring of the

program to individual needs. While there are certainly some advantages to putting very heterogeneous groups together in some management development classes, to require such a mixed group to all take the same courses is an inefficient use of the training resources at DSMC.

The efficiency of the management development programs at DSMC may also be increased if some of the longer courses such as the PMC were restructured into shorter courses that were tailored to provide the knowledge and skills needed to perform in different acquisition management positions. Students would be selected to attend these courses immediately prior to moving into the position which the course addressed. This represents another means of tailoring the management development programs to student needs while maintaining the present academic structure of DSMC courses.

The needs profile generated from a needs assessment process could also be used to generate an individual development plan for the student which would include suggested developmental activities which could be completed on an individual basis or on-the-job after graduation from the DSMC program. This technique is used successfuly at FEI which also operates from basically an academic program structure. This is already done to some extent with the more experienced students at DSMC who participate in various research projects with faculty members. The expansion of this program and the use of a systematic needs assessment process in developing the IDP would probably greatly enhance the learning experience of many students in the DSMC PM course.

Other changes which could be made within the same basic curriculum structure would be the use of a greater number of

simulations and other interactive learning methods. These simulations should be of a truly interactive nature. They would differ from the SX in that the outcome of these simulations would not be predetermined and they would involve more role playing and interpersonal skill development. There are a number of state-of-the-art simulations such as the Looking Glass simulation reviewed in Chapter 3 which could be purchased for use in the program. A better option might be to contract a consulting firm to custom design a non-computerized program management simulation for DSMC. This simulation could be similar in structure to the district manager simulation used by the IRS.

This simulation could be used to address two of the concerns expressed by past students. First, during the simulation students would have an opportunity to actually practice the application of some of the principles they were exposed to in lecture classes. This would likely enhance the development of a number of skills. Second, the debriefing sessions which occurred after the simulation could serve as a very effective means of integrating a great deal of material which the students had ingested during the program. This debriefing session would also likely provide a great deal of personal insight into their own behavior as managers for many of the students. This increased self-awareness would also facilitate behavioral change.

Another option which could be considered would be to help the students set developmental goals to be completed after leaving DSMC. These goals should be based on an integrated assessment of the individual conducted near the end of the program. This assessment should include evaluation of skills as well as his ability to report

factual knowledge gained in the courses. While the number of students attending DSMC may prohibit establishing any type of a follow-up program to assess progress in accomplishing the goals, the very process of establishing the goals is likely to promote continued developmental activities.

Establishing an Integrated Management Development System

If DSMC can gain control of small groups of managers for 6 months prior to their promotion into Program Manager positions, then the potential exists for adopting a management development systems approach for the development of these individuals. The development of this program should follow the general steps outlined in the preceeding chapter.. It is critical that all phases of the needs analysis process be followed in developing this program. This process will be much more complicated for DSMC than for a private corporation since DSMC services such a variety of organizations and it may not be possible to generalize from the program manager's job in one organization to the program manager's job in another organization. The common denominator to look at in making this comparison would probably be in detailed statements of the roles that program managers play in these different acquisition systems.

The needs analysis at the position level will also be highly critical in identifying the potential skills and knowledge which may be gained by managers participating in on-the-job developmental trips to various program manager positions. Given the clearly identifiable phases of planning, mobilizing, production, and deployment of major weapon systems it would seem only natural that

different competencies could be developed by sending managers on developmental assignments to programs which were in different phases of completion. The decision as to which managers should be sent on specific developmental experiences would, of course, depend on the results of each manager's developmental needs profile and resulting IDP.

It would seem appealing to model the DSMC program after the IRS executive development program. There are a number of similarities which would suggest that this might be an appropriate place to start. First, the IRS program is six months in length which is the projected time frame for the DSMC program. Second, the IRS program is not based on the assessment center method. The author would recommend that DSMC not adopt the assessment center method of individual needs assessment at this point in time. Most importantly, the IRS program is designed to achieve a management development process similar to that which the Program Manager must undergo. In both cases, the manager who has usually worked in a particular functional or technical speciality must make the change to a multifunctional management or executive role.

The IRS program also contains a hands-on computer skills segment which DSMC might wish to examine. This author would recommend that DSMC prepare program managers to use available computer technology to aid them in processing the massive amounts of information which must be digested in making decisions on major defense projects. This does not mean that the managers should be trained as programmers, rather, they should be trained to use available Decision Support Systems (DSS). DSMC could take the leadership role in developing DSS for these program managers and

might serve as the center for a computerized DSS network. This computer network could also serve as a means of providing exportable short courses and up-dates of information to graduates of DSMC working as program managers.

Unfortunately, there are a number of factors which will be working against the successful implementation of an integrated management development system. The most obvious of these factors is that DSMC is developing the program as an external training organization. The author could not find any other integrated management systems program which was not controlled internally by a single organization. Futhermore, the trend is to decentralize these systems to the divisional level to increase line management's participation and responsibility for the programs. Related to this issue is the question of how the DSMC faculty and administration will function in such a management development system. Clearly the trend in these programs is toward increased control and responsibility being assumed by line or operations management. One option would be for DSMC to function in the role of a consulting agency which aided each of the Armed Services in developing their own management development system, providing them with programatic support while they provide the on-the-job support.

The fact that DSMC is an external training organization also complicates the role the college can play in the career development process of the managers it serves. A good career or manpower planning system was seen as critical to the success of many integrated management development systems existing in industry. Since DSMC cannot control this system in the client organizations it serves, it must examine whether sufficient career development

planning occurs in these organizations to make it feasible to implement a systems approach to management development.

As may be remembered, each of the managers in the IRS program was assigned to a coach who was a line manager intricately involved in the executive development program. The question arises as to whether personnel are available to fill this role in the DSMC program. The acting program managers probably do not have the time to assume this responsibility. It probably would not be appropriate to use a faculty member from a particular technical speciality area in the role of a coach. This brings us to two final organizational issues of concern. First, how much commitment to management development is there from upper level management in the acquisitions management community? Is the commitment concentrated solely at the top of the hierarchy or does a broad base of support for such a program exist? Given the large number of graduates from DSMC and the high regard they have for the college, this may not be a major problem.

The final issue will be more difficult to solve. DSMC is structured as a typical academic organization complete with departments, department heads, deans, etc. These departments are separated along lines of technical or functional specialization. Such an organizational structure is useful in training technical specialists but can be a source of problems in the development of multi-functional executives. It is critical that Program Managers have an integrated perspective of their management role. The present structure at DSMC may work against this goal. One possible solution would be to assign a multi-disciplinary team of faculty members to work with each group of managers in the new PM program.

This discussion of factors which would appear to work against the successful establishment of an integrated management development system should not be interpreted as an indication that the author believes the system can not work. Rather, it is only by facing these issues head-on that DSMC will be able to maintain its leadership role in developing managers for the acquisition management community.

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APPENDIX A

COPY OF THE MANAGEMENT DEVELOPMENT SURVEY

MANAGEMENT DEVELOPMENT SURVEY

ORGANIZATIONAL CHARACTERISTICS

1. Number of managers per year involved in management development process you are describing

   _____

2. Approximate percentage of management development program trainees who are primarily engineering or technical specialists

   _____

3. How similar are the individuals participating in the management development activities with regard to years experience, technical capabilities and functional area of expertise?

   _____

   _____

   _____

   _____

4. Type of organization (manufacturing, service, utility, etc.)

   _____

5. How do you select people for entry into your management development program?

   _____

   _____

   _____

   _____

6. What do you think is the most unique or innovative feature of your management development program? How effective do you think this feature is?

   _____

   _____

   _____

   _____

   _____

   _____

OBTAINING SURVEY FEEDBACK

1. Would you be willing to answer some questions about your program in a relatively short phone conversation?

   _____

   If yes, please write your name and phone number here.

   _____

   _____

   _____

   _____

   _____

2. Would you like a summary of the results of the survey?

   _____

   If yes, please write the address to which the results should be mailed.

   _____

   _____

   _____

   _____

   _____

Informational Topics and Skills

Listed below are a number of informational topics/skills which may be addressed in a management development program. For each of these topics/skills, please indicate on the first scale whether or not your organization addressed the topic/skill, and if so, indicate on the second scale the emphasis placed on that topic/skill in the management development process.

Using the following scale to indicate the emphasis placed on each topic, circle the number corresponding to your response.

1 = very minor
2 = slight
3 = moderate
4 = very important

Topic/Skill	ADDRESSED Yes	No	EMPHASIS
1. Budgetting		X	1 2 3 4
2. Program/Product/Systems development		X	1 2 3 4
3. Program/Product/Systems evaluation		X	1 2 3 4
4. Contract management		X	1 2 3 4
5. Decision-making under uncertainty		X	1 2 3 4
6. Decision analysis		X	1 2 3 4
7. Multinational management		X	1 2 3 4
8. Cross-cultural training		X	1 2 3 4
9. Production management		X	1 2 3 4
10. Acquisition process (e.g., defense systems acquisition)		X	1 2 3 4
11. Government contracts/funding		X	1 2 3 4
12. Leadership style/skills		X	1 2 3 4
13. Communication skills		X	1 2 3 4
14. Oral presentation skills (briefings)		X	1 2 3 4
15. Team building		X	1 2 3 4
16. Personnel administration		X	1 2 3 4
17. Participative management		X	1 2 3 4
18. Policy formulation process		X	1 2 3 4
19. Ethics (law)		X	1 2 3 4
20. Lobbying process		X	1 2 3 4
21. Computerized MIS or DSS		X	1 2 3 4
22. Impact of office automation		X	1 2 3 4
23. Career planning		X	1 2 3 4
24. Stress management		X	1 2 3 4
25. Cost estimation		X	1 2 3 4
26. Business/industrial logistics management		X	1 2 3 4
27. Other _____		X	1 2 3 4

Management Development Techniques/Processes

Listed below are a number of techniques/processes which may be used for management development. For each of these techniques please indicate on the first scale whether or not your organization uses the technique, and if so, indicate on the second scale the extent to which that technique/process plays an important role in the management development program.

Using the following scale to indicate the role played by each of the factors, circle the number corresponding to your response.

1 = minor
2 = slight
3 = moderate
4 = very important

Process/Technique	USE Yes	No	ROLE PLAYED
1. Developmental job rotation or assignment		X	1 2 3 4
2. Mentoring or coaching system		X	1 2 3 4
3. Feedback from performance appraisal/MBO		X	1 2 3 4
4. Lecture		X	1 2 3 4
5. Class Discussion		X	1 2 3 4
6. Non-computerized simulations/business games		X	1 2 3 4
7. Computerized simulations		X	1 2 3 4
8. Case study		X	1 2 3 4
9. Assigned readings		X	1 2 3 4
10. Tutoring		X	1 2 3 4
11. Role playing		X	1 2 3 4
12. Behavior modeling		X	1 2 3 4
13. Film or videotape presentation		X	1 2 3 4
14. Videotaping of trainee performance for feedback		X	1 2 3 4
15. Class presentations by trainees		X	1 2 3 4
16. Guest speakers		X	1 2 3 4
17. Field trips		X	1 2 3 4
18. Self-paced written material		X	1 2 3 4
19. Self-paced computer-assisted instruction		X	1 2 3 4
20. Tailored individual developmental activities		X	1 2 3 4
21. Other _____		X	1 2 3 4

RECOMMENDATIONS

Given the past experiences of your organization, please indicate which of the techniques/processes you would recommend for improving the effectiveness of managers in each of the informational topics/skill areas listed in Section B. Please write in the number(s) corresponding to the most appropriate technique(s) in the space provided for each topic, but do not indicate more than 3 techniques for any topic/skill area. Section A contains the list of techniques.

Section A

1. On-the-job-training
2. Lecture and class discussion
3. Non-computerized simulations/business games
4. Computerized simulations/business games
5. Case studies
6. Role-playing
7. Behavior modeling
8. Class presentations by trainees
9. Guest speakers
10. Self-paced written material
11. Self-paced computer-assisted instruction
12. Other _____

SECTION B

Informational Topics/Skills	Techniques
1. Budgeting	___ ___ ___
2. Program/Product/Systems development	___ ___ ___
3. Program/Product/Systems evaluation	___ ___ ___
4. Contract management	___ ___ ___
5. Decision-making under uncertainty	___ ___ ___
6. Decision analysis	___ ___ ___
7. Multinational management	___ ___ ___
8. Cross-cultural training	___ ___ ___
9. Production management	___ ___ ___
10. Acquisition process (e.g., defense systems acquisition)	___ ___ ___
11. Government contracts/ funding	___ ___ ___
12. Leadership style/skills	___ ___ ___
13. Communication skills	___ ___ ___
14. Oral communication skills (briefings)	___ ___ ___
15. Team building	___ ___ ___
16. Personnel administration	___ ___ ___
17. Participative management	___ ___ ___
18. Policy formulation process	___ ___ ___
19. Ethics (law)	___ ___ ___
20. Lobbying process	___ ___ ___
21. Computerized MIS or DSS	___ ___ ___
22. Impact of office automation	___ ___ ___
23. Career planning	___ ___ ___
24. Stress management	___ ___ ___
25. Cost estimation	___ ___ ___
26. Business/industrial logistics management	___ ___ ___
27. Other _____	___ ___ ___

CONTINUED ON BACK

ORGANIZATIONAL FACTORS

There are many organizational factors which might enhance or hamper the effectiveness of a management development program. To what extent have the factors listed below influenced the effectiveness of management development programs in your organization?

On the first scale, please indicate if the factor is present or absent in your organization. Use the second scale to indicate the manner in which the presence or absence of the factor has influenced the effectiveness of the management development programs in your organization.

Using the following scale to indicate the effect of the factor on your management development program, circle the number corresponding to your response.

1 = severely hampered
2 = mildly hampered
3 = no effect
4 = slightly enhanced
5 = greatly enhanced

FACTORS	PRESENT Yes | No	EFFECT
1. Commitment from top management	___|___	1 2 3 4 5
2. Release time for trainees attending training programs	___|___	1 2 3 4 5
3. Reinforcement of new behaviors when returning to job	___|___	1 2 3 4 5
4. Relevance of program to organizational objectives	___|___	1 2 3 4 5
5. Availability of organizational incentives for participation	___|___	1 2 3 4 5
6. Long-term planning for career development	___|___	1 2 3 4 5
7. Integration of components of management development programs	___|___	1 2 3 4 5
8. Training needs analysis	___|___	1 2 3 4 5
9. Selection process for trainees	___|___	1 2 3 4 5
10. Individual tailoring of program	___|___	1 2 3 4 5
11. Other _____	___|___	1 2 3 4 5

EVALUATION OF MANAGEMENT DEVELOPMENT PROGRAMS

Listed below are several sources of evidence which could be used to evaluate the effectiveness of a management development program. For each of these, please indicate whether or not each of these sources of information has provided you with evidence that your management development program is/was successful.

Using the following scale, circle the number corresponding to your responses:

1 = not used
2 = don't know
3 = no evidence of success
4 = evidence of success

SOURCES OF INFORMATION	EVIDENCE OF SUCCESS
1. Informal feedback from program participants or their supervisors	1 2 3 4
2. Better performance on knowledge tests at the end of training	1 2 3 4
3. Better scores on skill assessment exercises at the end of training (e.g., assessment center type exercise)	1 2 3 4
4. Positive written reaction from trainees at end of session	1 2 3 4
5. Positive reaction from trainees after graduating from training and applying new skills or knowledge on the job	1 2 3 4
6. Improved performance appraisal ratings on trainees after the management development program experience	1 2 3 4
7. Improved ratings on survey results from the trainees' subordinates after graduation	1 2 3 4
8. Improvement in some objective measures of performance on the job such as increased productivity or less turnover, etc.	1 2 3 4
9. Increased profitability of work groups headed by people who graduated from the program	1 2 3 4
10. Other _____	1 2 3 4

THANK YOU VERY MUCH FOR TAKING THE TIME TO COMPLETE THIS SURVEY.

APPENDIX B

SUMMARY OF THE INSTRUCTIONAL METHODS DATA

Summary of Recommendations of Instructional Methods for Particular Management Development Topic/Skill Areas for Successful and NEFS (No Evidence for Success) Programs

Topic/Skill Area	Most Frequently Recommended Instructional Methods[1]	
	Successful Programs	NEFS Programs
Budgeting	1. On-the-job training (54.5) 2. Written Self-paced material (54.5) 3. Computer-Assisted Instruction (CAI) (45.5) 4. Computer Simulation (36.4)	1. Lecture & Discussion (61.0) 2. On-the-job training (61.0) 3. Case Studies (39.0) 4. Guest Speaker (28.0)
Program/Product Systems Development	1. On-the-job training (75.0) 2. Case Studies (62.5) 3. Lecture & Discussion (37.5)	1. Lecture & Discussion (100) 2. On-the-job training (46.0) 3. Case Studies or Written Self-paced material (27.3)
Program/Product Systems Evaluation	1. Case Studies (62.5) 2. On-the-job training (50.0) 3. Lecture & Discussion (37.5)	1. Lecture & Discussion (90.0) 2. On-the-job training (40.0) 3. Case Studies (30.0)
Contract Management	1. Case Studies (57.1) 2. Lecture & Discussion (42.9) 3. Guest speakers (42.9)	1. Lecture & Discussion (60.0) 2. On-the-job training (50.0) 3. Case Studies (40.0)
Decision Making Under Uncertainty	1. Case Studies (77.8) 2. Role Playing (33.3) 3. CAI (33.3)	1. Lecture & Discussion (70.6) 2. Case Studies (70.6) 3. Role Playing (47.1)
Decision Analysis	1. Lecture & Discussion (44.4) 2. Case Studies (33.3) 3. CAI (33.3)	1. Lecture & Discussion (72.2) 2. Case Studies (66.7) 3. Role Playing (27.8)
Multi-National Management	1. Guest Speakers (83.3) 2. Case Studies (66.7) 3. On-the-job training or Simulations or Lecture & Discussion (33.3)	1. Lecture & Discussion (66.7) 2. Case Studies (50.0) 3. Guest Speakers (50.0)

[1] The numbers in parentheses represent the percentage of respondents endorsing that instructional method for the corresponding topic/skill area

Summary of Recommendations of Instructional Methods for Particular Management Development Topic/Skill Areas for Successful and NEFS (No Evidence for Success) Programs

Topic/Skill Area	Most Frequently Recommended Instructional Methods[1]	
	Successful Programs	NEFS Programs
Cross-Cultural Training	1. On-the-job training (57.1) 2. Behavior Modeling (57.1) 3. Simulations (42.9)	1. Lecture & Discussion (81.8) 2. Guest Speaker (45.5) 3. On-the-job training or role playing or behavior modeling (27.3)
Production Management	1. Computer Simulation (66.7) 2. Lecture & Discussion (66.7) 3. On-the-job training or simulations or CAI (33.3)	1. Lecture & Discussion (76.9) 2. On-the-job training (46.2) 3. Case Studies (30.8)
Acquisition Process	1. Lecture & Discussion (75.0) 2. On-the-job training (50.0) 3. Guest Speakers (50.0)	1. Lecture & Discussion (60.0) 2. Guest Speakers (60.0) 3. Case Studies or Self-paced written material (40.0)
Government Contracts	1. Lecture & Discussion (100) 2. Written Self-paced material (50.0) 3. On-the-job training or case studies or guest speakers (25.0)	1. Guest Speakers (85.7) 2. Lecture & Discussion (57.1) 3. Written Self-paced material (42.9)
Leadership Skills	1. Role Playing (61.5) 2. Behavior Modeling (61.5) 3. Lecture & Discussion (53.8)	1. Lecture & Discussion (70.0) 2. Role Playing (65.0) 3. Behavior Modeling (65.0)
Communication Skills	1. Role Playing (84.6) 2. Lecture & Discussion (46.2) 3. On-the-job training or behavior modeling or class presentations (38.5)	1. Lecture & Discussion (70.0) 2. Role Playing (70.0) 3. Class Presentations (50.0)
Oral Communication Skills (Briefings)	1. Role Playing (91.7) 2. Class Presentations (50.0) 3. Lecture & Discussion (50.0)	1. Class Presentations (75.0) 2. Role Playing (70.0) 3. Lecture & Discussion (60.0)

[1] The numbers in parentheses represent the percentage of respondents endorsing that instructional method for the corresponding topic/skill area

Summary of Recommendations of Instructional Methods for Particular Management Development Topic/Skill Areas for Successful and NEFS (No Evidence for Success) Programs

Topic/Skill Area	Most Frequently Recommended Instructional Methods[1]	
	Successful Programs	NEFS Programs
Team Building	1. Role Playing (50.0) 2. Behavior Modeling (41.7) 3. Case Studies (41.7)	1. Lecture & Discussion (83.3) 2. Case Studies (55.6) 3. Role Playing (55.6)
Personnel Administration	1. Lecture & Discussion (88.9) 2. On-the-job training (44.4) 3. Written Self-paced material (33.3)	1. Lecture & Discussion (100) 2. Case Studies (64.3) 3. Guest Speakers (35.7)
Participative Management	1. Role Playing (77.8) 2. Behavior Modeling (44.4) 3. Lecture & Discussion (44.4)	1. Lecture & Discussion (82.4) 2. Role Playing (58.8) 3. Case Studies (47.1)
Policy Formulation Process	1. Lecture & Discussion (66.7) 2. Case Studies (44.4) 3. Guest Speakers (44.4)	1. Lecture & Discussion (76.9) 2. Case Studies (76.9) 3. Guest Speakers (53.8)
Ethics	1. Lecture & Discussion (77.8) 2. Guest Speakers (44.4) 3. Case Studies or role playing (22.2)	1. Lecture & Discussion (91.7) 2. Guest Speakers (83.3) 3. Case Studies (41.7)
Lobbying	1. Lecture & Discussion (83.3) 2. Case Studies (66.7) 3. Guest Speakers (50.0)	1. Guest Speakers (100) 2. Lecture & Discussion (75.0) 3. Written Self-paced material (25.0)
Computerized Management Information Systems	1. Computer-Assisted Instruction (CAI) (85.7) 2. Written Self-paced material (42.9) 3. Guest Speakers or Lecture & Discussion or Computer Simulation (28.6)	1. Lecture & Discussion (75.0) 2. Computer Simulation (41.7) 3. On-the-job training or written self-paced material or CAI (33.3)
Impact of Office Automation	1. Lecture & Discussion (50.0) 2. Guest Speakers (50.0) 3. CAI (25.0)	1. Lecture & Discussion (90.0) 2. Guest Speakers (60.0) 3. Case Studies or written self-paced material or CAI (20.0)

[1] **The numbers in parentheses represent the percentage of respondents endorsing that instructional method for the corresponding topic/skill area**

Summary of Recommendations of Instructional Methods for Particular Management Development Topic/Skill Areas for Successful and NEFS (No Evidence for Success) Programs

Topic/Skill Area	Most Frequently Recommended Instructional Methods[1]	
	Successful Programs	NEFS Programs
Career Planning	1. Case Studies (50.0) 2. On-the-job training (40.0) 3. Lecture & Discussion (40.0)	1. Lecture & Discussion (93.8) 2. Case Studies (50.0) 3. Role Playing (31.3)
Stress Management	1. Lecture & Discussion (70.0) 2. Role Playing (30.0) 3. Behavior Modeling (30.0)	1. Lecture & Discussion (66.7) 2. Case Studies (50.0) 3. Role Playing or Behavior Modeling (38.9)
Cost Estimation	1. On-the-job training (50.0) 2. Lecture & Discussion (50.0) 3. Computer Simulation or Written Self-paced material (37.5)	1. Lecture & Discussion (66.7) 2. Written Self-paced material (33.3) 3. On-the-job training or simulations or computer simulations or CAI (25.0)

[1] The numbers in parentheses represent the percentage of respondents endorsing that instructional method for the corresponding topic/skill area

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